H.264 IR BULLET NETWORK CAMERA

# PixelPro SERIES

## ZN-B2MTP / ZN-B2MTP-2 / ZN-B1MTP

## USER'S MANUAL

Before connecting, operating or adjusting this product,
read this instruction booklet carefully and completely

# SAFETY INSTRUCTIONS

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with a dry cloth.
7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
9) Only use the attachments/accessories specified by the manufacturer.
10) Use only with a cart, stand, tripod or bracket specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

12) Unplug this apparatus during lightning storms or when unused for long periods of time.
13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**WARNING:**

- **To reduce the risk of fire or electric shock, do not expose this apparatus especially connections part to rain or moisture.**
- **The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.**

**CALIFORNIA USA ONLY**

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA. "Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate."

**Caution**
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock does not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## In USA and Canada, Use Class 2 Power Supply Only

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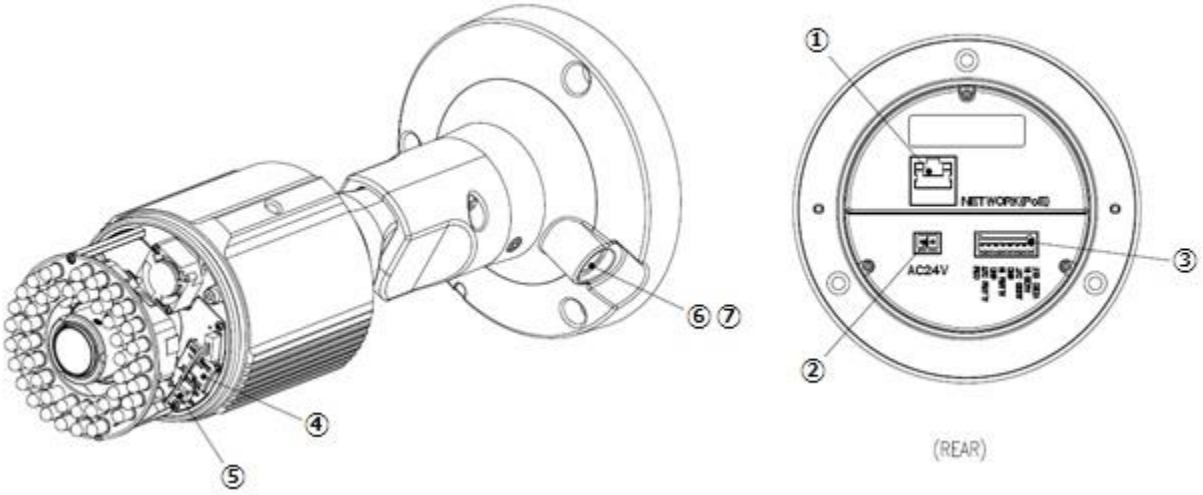
# 1. Product Features

The GANZ PixelPro is a high performance H.264 network camera, designed for demanding security installations. It delivers crisp, clear images, disclosing every detail, thanks to its top quality Megapixel progressive CMOS sensor and advanced image processing.

Supported by the industry's largest base of video management software, the GANZ PIxelPro provides the perfect solution for securing bank offices, airports and other facilities, and for traffic surveillance, over IP based networks.

The optimal Power over Ethernet (IEEE 802.3af) support power to the camera to be delivered via the network, eliminating the need for a power outlet and reducing installation costs. Steady power could be guaranteed with a central Uninterruptible Power Supply (UPS).

The GANZ PixelPro offers a comprehensive set of network security and management features.
This includes support for port based network control (IEEE802.1X), which allows the camera to be connected to a network secured with this control, and HTTPS encryption, which provides a secure channel between camera and application. It also enables authentication of the video source. Video products are efficiently managed with the powerful GANZ PixelPro Camera Management tool, which is provided on the Installation CD which comes with each GANZ PixelPro camera.




### 1. Network connector

The GANZ PixelPro connects to the network via a standard network cable, and automatically detects the speed of the local network segment (10BaseT/100BaseTX Ethernet). This socket could also be used to power the GANZ PixelPro via Power over Ethernet (PoE). The camera auto-senses the correct power level when using a PoE switch, router or injector.

When you use a built-in Heater on the camera, particularly you don't need connect the PoE power to the camera. Camera need to connect 24VAC power.

### 2. Power Connector

24VAC power connector

Note: Heater function is required 24VAC power supply.

When 24VAC power connected to the camera, particularly you don't need connect PoE power.

Note: Heater will be turned-on/off automatically in low ambient temperatures.

### 3. I/O connector

**Audio in**

Audio in (line level), for line-in mono signal (only left channel is used from a stereo signal)

**Audio out**

The Audio output (line level), which could be connected to a line output of a microphone system or an active speaker with a built-in amplifier.

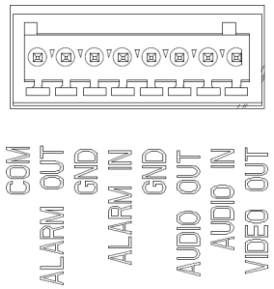
**Alarm in**

One analog (dry contact) alarm input

**Alarm out**

One relay output (**0.5A 125VAC / 1A 30VDC)**

**Pin Assignment**




## 4. Micro SD card

Save snapshot images onto a Micro SD card.

## 5. Control Button

This button has 3 functions by pressing time.
1) Switch NTSC / PAL format (less than 1 second)
2) System reboot (around 5 seconds)
3) Factory Default Reset (More than 10 seconds)

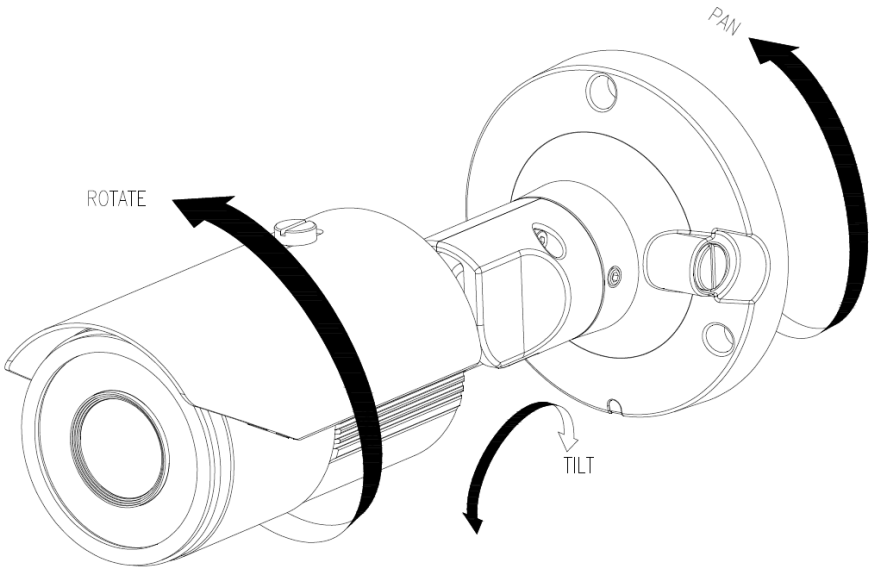
## 6. Status LED

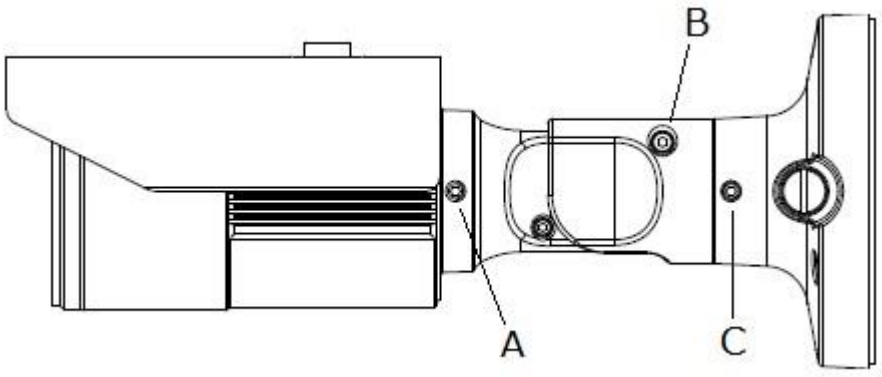
| *LED Color* | *Indication* | *System Status* |
|---|---|---|
| Green | On | Connection to 10/100Mbps Network / LAN.<br>Network connection is established. |
| | Flashes | Indication of network activity.<br>Camera is booting up. |
| Unlit | - | No network connection established.<br>When no or incorrect power is supplied. |
| Red | On | Camera reset is in progress. |
| | Flashes | Factory Default settings are in progress. |

## 7. Video Output for Service monitor

This analog video output is available. Use accessory cable to video output.

## Adjustment

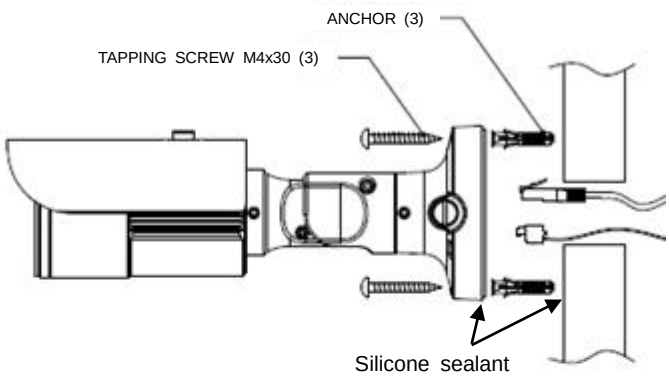


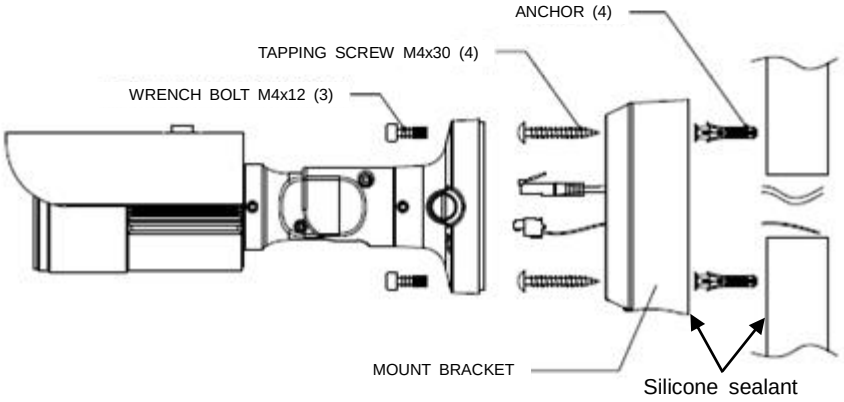

A: Rotate locking screw
B: Tilt locking screw
C: Pan locking screw

## Mounting to a ceiling / wall

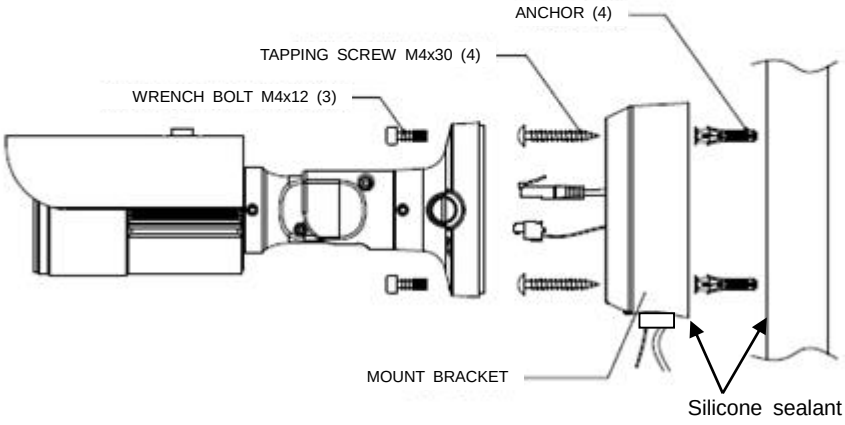
Secure the camera to ceiling or wall with supplied tapping screws like below.
For waterproofing purposes, apply the "Silicone sealant" around the area where the mount base contacts the wall or ceiling.




IN CEILING MOUNT(WITHOUT BRACKET)




IN CEILING MOUNT(WITH BRACKET)




SURFACE MOUNT(WITH BRACKET)

# 2. Accessing the Camera

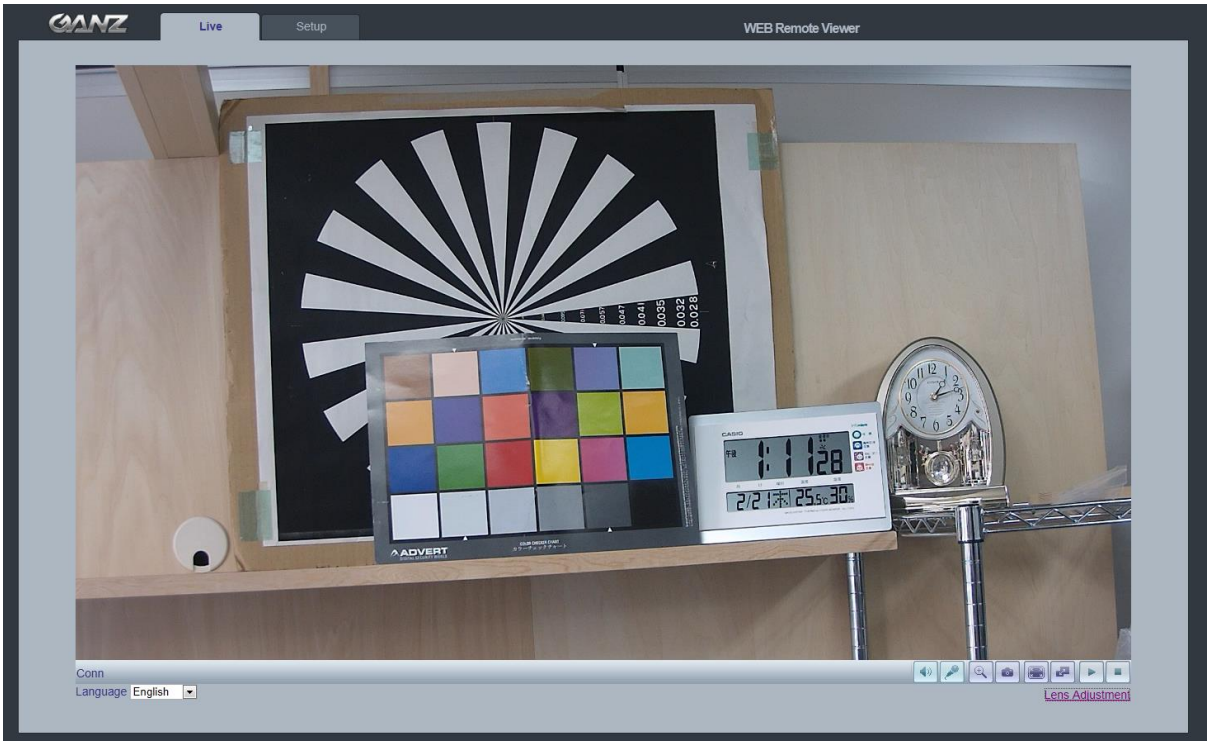
Follow the instructions in the GANZ PixelPro Installation Guide to install the camera.

The GANZ PixelPro could be accessed with most standard operating systems and browsers. The recommended browser is Internet Explorer for Windows with other operating systems.

## 2.1 Access from a browser

1. Start a browser (Internet Explorer)

2. Enter the IP address or host name of the camera in the Location/Address field of your browser. Press Enter.




3. Login dialog will appear when the camera is accessed for the first time.

4. The default user name is **ADMIN**, and password is **1234**.

5. The camera's Live View page is now displayed in your browser.

Note: The layout of the live view page in the camera may have been customized to meet specific requirements. Consequently, some of the examples and functions featured here may differ from those displayed on your own Live View page.

## 2.2 Accessing the camera from the Internet

Once installed, the camera is accessible on the local network (LAN). Configure the router/firewall to allow incoming data traffic to access the camera from the Internet. For security reasons this is usually done on a specific port. Please refer to the documentation for router/firewall for further instructions.

## 2.3 Adjusting the Image and Focus

To adjust the position of the lens:

1. Open the **Live View** page in your web browser.
- Select the **Setup** tab, and open the **Analog output** page.
- Select the 'Video Format' or "ON".

2. Connect analog monitor to the VIDEO OUT (BNC) on the supplied cable after connected the supplied Video monitor cable with video output connector.
- Control the ZOOM/FOCUS by the Lens Adjustment window, and adjust the camera angle.
  For lens adjustment method, please refer to "5.2.5 Lens Adjustment".

3. Check the image from the **Live View** page on your web browser.

4. You can refocus adjustment by Lens Adjustment window, if you want fine lens adjustment.

## 2.4 The Live View page

Enable/Disable PC Speaker output

Enable/Disable PC Microphone input

Digital Zoom

Snap Shot

Full Screen

Video Stream change: First stream ⇔ Second stream

Play: Click this button by manually to start the stream

Stop: Click this button by manually to stop streaming

*NOTE: It is possible that not all the buttons described below will be visible unless the Live View page has been customized to display them.*

## 2.5 Video stream types

## H.264 protocols and communication methods

• **RTP** (**R**eal-time **T**ransport **P**rotocol) is a protocol that allows programs to manage the real-time transmission of multimedia data, via unicast or multicast.

• **RTSP** (**R**eal **T**ime **S**treaming **P**rotocol) serves as a control protocol, to negotiate the type of transport protocol to use for the stream. RTSP is used by a viewing client to start a unicast session.

• **UDP** (**U**ser **D**atagram **P**rotocol) is a communications protocol that offers limited service for exchanging data in a network which uses the Internet Protocol (IP). UDP is an alternative to the Transmission Control Protocol (TCP). The advantage of UDP is that, it is not required to deliver all data and may drop network packets when there is network congestion. This is suitable for live video, as there is no point in re-transmitting old information that will not be displayed anyway.

• **Unicasting** is communication between a single sender and a single receiver over a network. This means that the video stream goes independently to each user, and each user gets own stream. A benefit of unicasting is, in case one stream fails, it only affects one user.

• **Multicasting (Will be supported)** is bandwidth-conserving technology that reduces bandwidth usage by simultaneously delivering a single stream of information to multiple network recipients. This technology is used primarily on delimited networks (intranets), as each user needs an uninterrupted data flow and should not rely on network routers.

## 2.6 How to stream H.264

Deciding on the combination of protocols and methods to use depends on your viewing requirements, and on the properties of your network. Setting the preferred method(s) is done in webpage.

**RTP+RTSP**
This method (actually RTP over UDP and RTSP over TCP) should be your first consideration for live video, especially when it is important to always have an up-to-date video stream, even if some images are lost due to network problems. This could be configured as multicast or unicast.

**RTP/RTSP/Multicasting (Will be supported)** provides the most efficient usage of bandwidth, especially when there are large numbers of clients viewing simultaneously. Note however, that a multicast broadcast could not pass a network router unless the router is configured to allow this. For example, It is impossible to multicast over the Internet.

**RTP/RTSP/Unicasting** should be used for video-on-demand broadcasting, so that there is no video traffic on the network until a client connects and requests the stream. However, as more and more unicast clients get connected, the traffic on the network will increase and may cause congestion. Although there is a maximum of 10 unicast viewers, note that all multicast users combined count as 1 unicast viewer.

**RTP/RTSP**
This unicast method is RTP tunneled over RTSP. This could be used to exploit the fact that it is relatively simple to configure firewalls to allow RTSP traffic.

# 3. The Setup

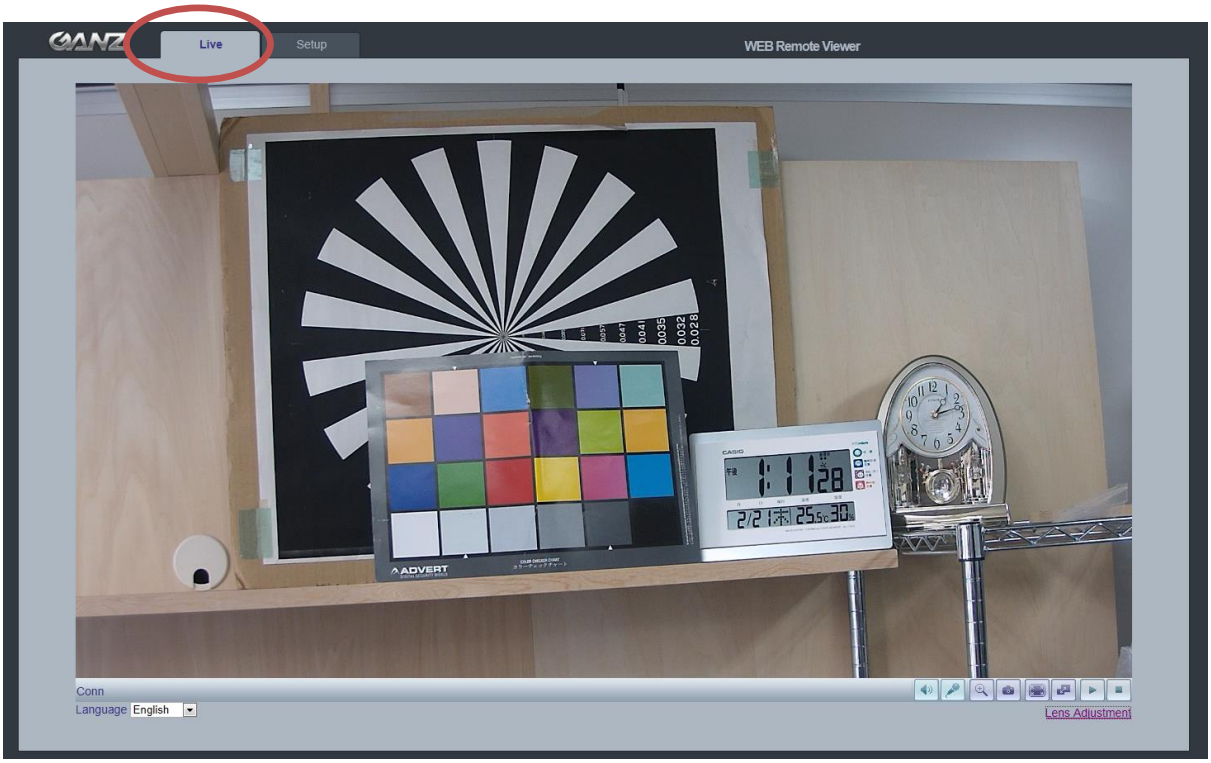
The GANZ PixelPro is configured from the Setup link, which is available on the top left hand side in the web interface. This configuration could be done by:

• **Administrators**, who have unrestricted access to all settings under the Setup tab.

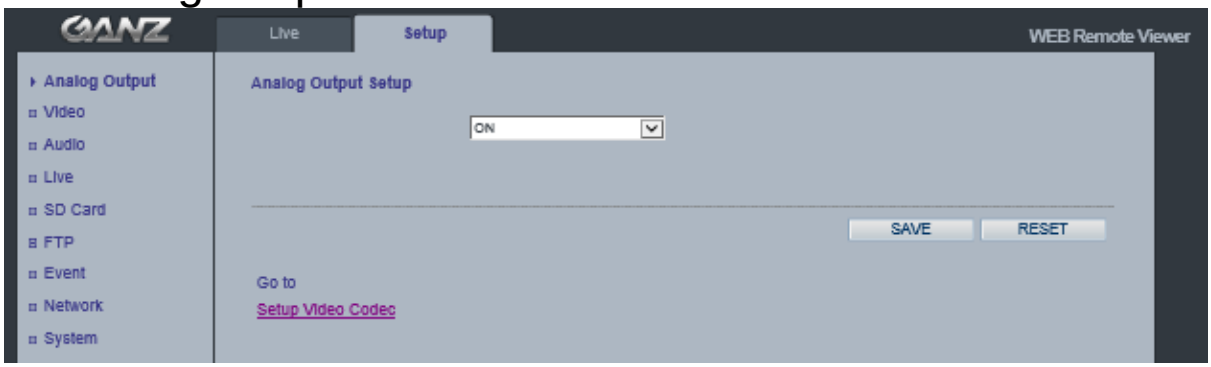
## Accessing the Setup link from a browser

1. Start your web browser and enter the IP address or host name of the camera into the address bar.

2. The Live View page is now displayed. Click on the Setup tap.



# 4. Analog output




Toggle menu changed to "ON/OFF" from FW1558 and later.

## 4.1 Analog Output Setup

Toggle the **Analog video output** to "ON/OFF" from BNC output of the camera.

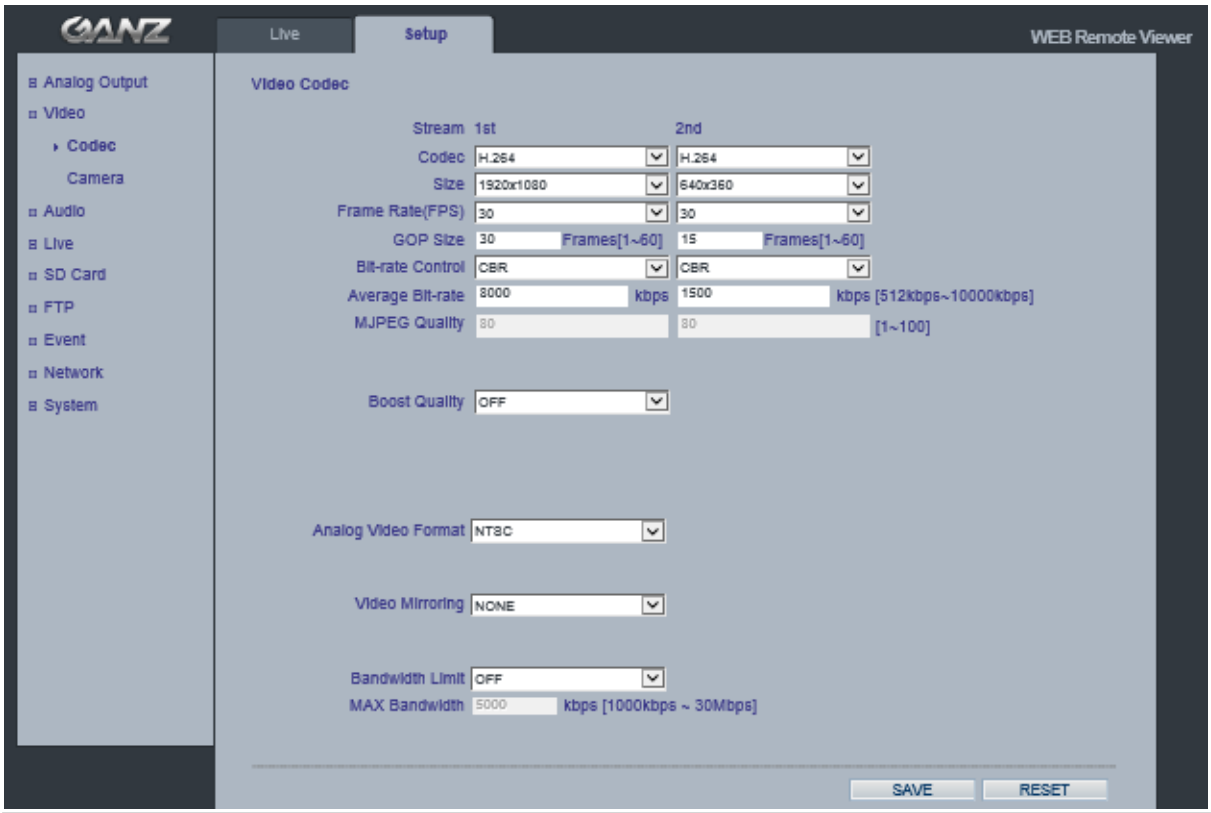
**Analog output** allows selection of Video output format from BNC output of the camera.
NTSC, PAL: Analog Output is selectable.
This Analog Video Format menu moved to "**Codec**" page from FW1558 and later.

# 5. Video

The following descriptions show examples of some of the features available in the GANZ PixelPro.

## 5.1 Codec

These are the tools for adjusting the H.264 settings and controlling the video bit rate.



### H.264

This is a video compression standard that makes good use of bandwidth and which could provide high-quality video streams at less than 1 Mbit/s.

The H.264 standard provides scope for a large range of different coding tools for use by various applications in different situations, and the GANZ PixelPro provides certain subsets of these tools.

Using H.264, it is also possible to control the bit rate, which in turn allows the amount of bandwidth usage to be controlled. CBR (Constant Bit Rate) is used to achieve a specific bit rate by varying the quality of the H.264 stream. While using VBR (Variable Bit Rate), the quality of the video stream is kept as constant as possible, at the cost of a varying bit rate.

#### Motion JPEG

This format uses standard JPEG still images in the video stream. These images then are displayed and updated at a rate sufficient to create a stream that shows constantly updated motion.
The Motion JPEG stream uses considerable amounts of bandwidth, but also provides excellent image quality and access to every individual image contained in the stream. Multiple clients accessing Motion JPEG streams could use different image settings.

### Codec

H.264 / MJPEG

### Size

Video output resolution. See the next page for the output resolution table.

### Frame rate

1~30fps in normal mode (1~15fps for slow shutter mode)

Note: *If the slow shutter mode is turned on and the low light condition is met, the frame rate is automatically goes down. In this case, the frame is half of the normal mode.*

### GOP Size

1 ~ 60 frames

### Bit-rate control (CBR or VBR)

When using H.264 compression, if there is only limited bandwidth available, a constant bit rate(CBR) is recommended, although this may compromise image quality. Use a variable bit rate(VBR) for the best possibly image quality.

### Average Bit-rate (512Kbps ~ 10Mbps)

Recommended bit rate for D1: 800Kbps ~ 1Mbps
Recommended bit rate for 1.3M(720p): 3Mbps ~ 4Mbps
Recommended bit rate for 2.0M(1080p): 6Mbps ~ 8Mbps

## Analog Video Format

Analog output allows selection of Video output format from BNC output of the camera.
NTSC, PAL: Analog Output is selectable.

**Anti-Flicker mode (Flicker less mode) moved to "Camera" setup menu from FW1558 and later.**
60Hz:NTSC
50Hz:PAL or flicker-free mode(to use the camera in locations lit by fluorescent lighting).

## Video Mirroring

Video Mirroring mode can be set to None, Horizontal, Vertical or Flip (H+V).

## Bandwidth Limit

Limit the bandwidth that the GANZ PixelPro can use during a network connection.

## Max Bandwidth

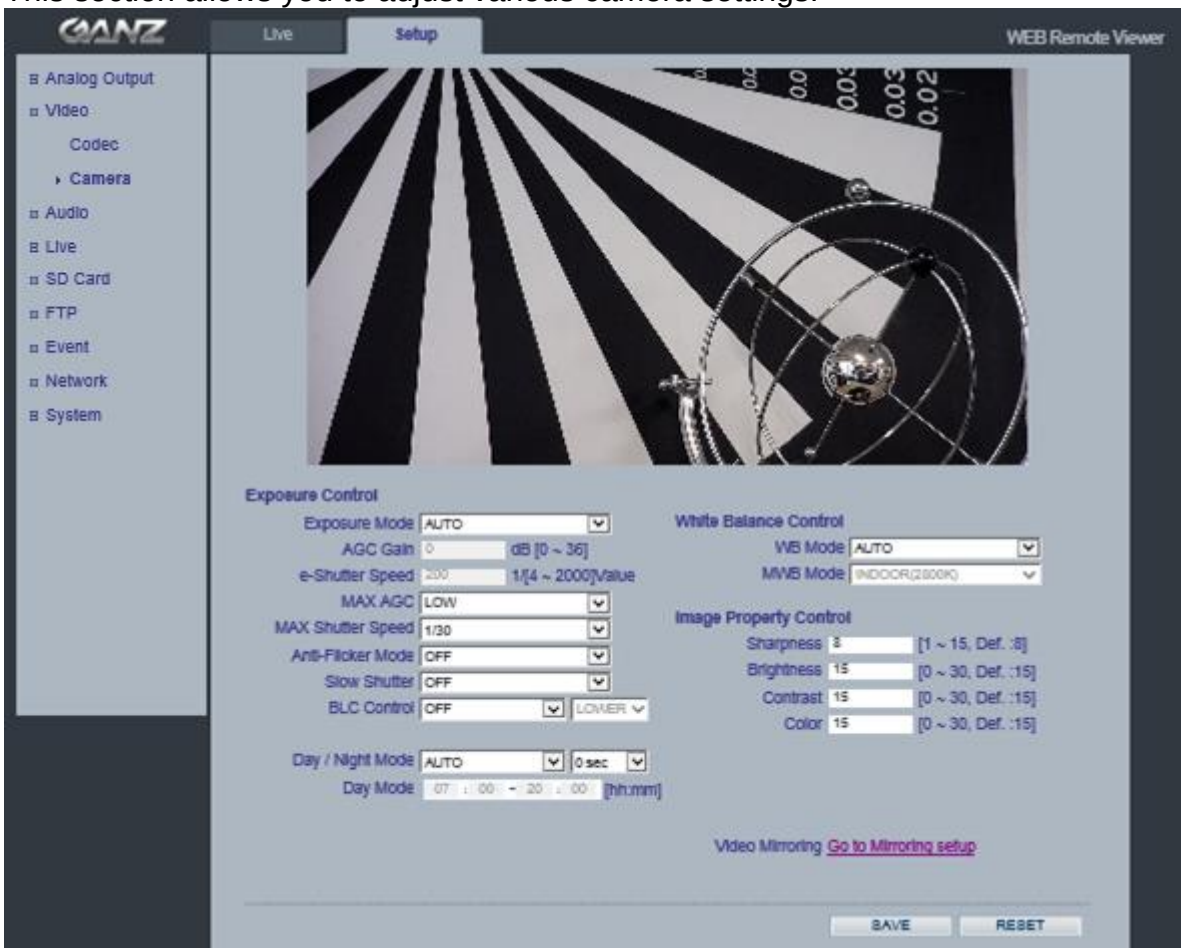
Specify the maximum bandwidth that the GANZ PixelPro can use during a network connection.

### < Output resolution table for PixelPro>

| First Stream | Second Stream | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1920x1080 | 704x480 | 640x480 | 640x360 | 640x352 | 352x288 | 352x240 | 320x240 | - |
| 1280x1024 | 704x480 | 640x480 | 640x360 | 352x288 | 352x240 | 320x240 | - | - |
| 1024x768 | 704x480 | 640x480 | 640x360 | 352x288 | 352x240 | 320x240 | - | - |
| 1280x720 | 1280x720 | 704x576 | 704x480 | 640x480 | 640x360 | 352x288 | 352x240 | 320x240 |
| 704x576 | 704x576 | 640x480 | 640x360 | 352x288 | - | - | - | - |
| 704x480 | 704x480 | 640x480 | 640x360 | 352x240 | - | - | - | - |
| 640x480 | 640x480 | 320x240 | - | - | - | - | - | - |
| 640x360 | 640x360 | 320x240 | - | - | - | - | - | - |
| 352x288 | 352x288 | - | - | - | - | - | - | - |
| 352x240 | 352x240 | - | - | - | - | - | - | - |
| 320x240 | 320x240 | - | - | - | - | - | - | - |

## 5.2 Camera

This section allows you to adjust various camera settings.




### 5.2.1 Exposure Control

**Exposure Mode**

**Auto**: Use this settings for automatic exposure control.
**Manual**: Use these settings to control camera exposure manually.
**Auto (Motion Priority)**: Use this settings to be improved blurred images of the moving objects under low light conditions. Image noises would be increased under the low light conditions. *This function is available from FW1558 and later.

To compensate for poor lighting conditions, you can adjust the Color level, Brightness, Sharpness, Contrast and Exposure control.

NOTE: *When AE is enabled, some of the submenus (AGC Gain, e-Shutter Speed) will be disabled.*

**Max AGC Gain**

For low light conditions, adjust to a higher value, such as 36dB.
Max AGC Gain can be set to LOW, MID, HIGH or MAX.

**Max Shutter Speed**

Slowest shutter speed can be selected from the menu.
*This function is available from FW1558 and later.

**Anti-Flicker Mode (Flicker less mode)**

Anti-Flicker Mode can be set to 60Hz, 50Hz or OFF.
**60Hz**: NTSC
**50Hz**: PAL or flicker-free mode (to use the camera in locations lit by fluorescent lighting).
**OFF** (This mode is available from FW1558 and later.)

**P-Iris Control**

P-Iris controls can be set to Auto, Best Quality, Depth of Field or Manual.
"Best Quality" and "Depth of Field" functions are available from FW1558 and later.

**Auto**: Lens Iris will be controlled such as standard Auto Iris lens.
**Best Quality**: Lens Iris positions will be controlled to best quality positions of the lens under bright conditions.
**Depth of Field**: Lens Iris positions will be controlled to small aperture positions to make depth of field under bright condition.
**Manual**: Lens Iris positions can be controlled to specified positions manually. And the adjusted Iris positions does not move automatically.

**Slow Shutter**

For low light conditions, turn on slow shutter mode.
Slow shutter speed can be set to x2, x4, x8 or OFF.

**BLC Control (Back Light Compensation)**

The BLC adjusts the exposure of scenes with strong backlight in the center-bottom of the image. When the image background is too bright, or the objects are too dark, backlight compensations make the objects appear clearer. The settings for low light behavior determine how the camera behaves at low light levels. These settings affect video image quality and noises appears on the images.
The BLC can be set to Adaptive, Zone or OFF.
"Adaptive" and "Zone" functions are available from FW1558 and later.

**Adaptive**: The mode works detections and compensations automatically.
**Zone**: Can be set the detections areas for BLC behaviors from Lower, Middle, Upper, Left or Right.

### 5.2.2 Day & Night Control

**Day & Night Mode**

**Auto/Day/Night/Schedule**- If set to Auto, the camera will automatically switch according to the current lighting conditions.

**Schedule-** You can specify the schedule of Day mode.
* Schedule is available from FW1333 and later.

## 5.2.3 White Balance Control

**WB (White Balance) Mode**

WB mode can be set to Auto, Auto (wide mode), Custom (one-shot mode), WB Hold or Manual. "Custom" / "WB Hold" functions are available from FW1558 and later.

**Auto**: ATW (Auto Tracking White balance)
The White balance adjustment setting is used to make the colors in the image appear consistent, compensating for the different colors present in different light sources. The GANZ PixelPro camera can be set to automatically identify the light source and compensate for its color temperature.
**Auto (wide mode)**: WB adjustment range is wider than Auto mode.
**Custom (one-shot mode)**: WB will be fixed after adjusted WB in ATW, and then the mode to be switched to the WB Hold mode automatically.
**WB Hold**: When the WB Hold was enabled, WB to be fixed.
**Manual**: When Manual White Balance is enabled, WB mode for the light sources can be selected from the following fixed mode;
Indoor (2800K), Outdoor (6500K), or Fluorescent (4000K)

## 5.2.4 Image Property Control

Modify the video signal parameters, such as: Brightness, Sharpness, Contrast, and Color.

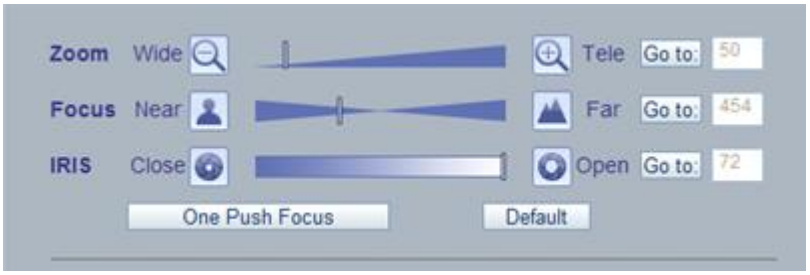
Sharpness (Default: 8, Range: 1~15)
Brightness (Default: 15, Range: 0~30)
Contrast (Default: 15, Range: 0~30)
Color (Default: 15, Range: 0~30)

## 5.2.5 Lens Adjustment

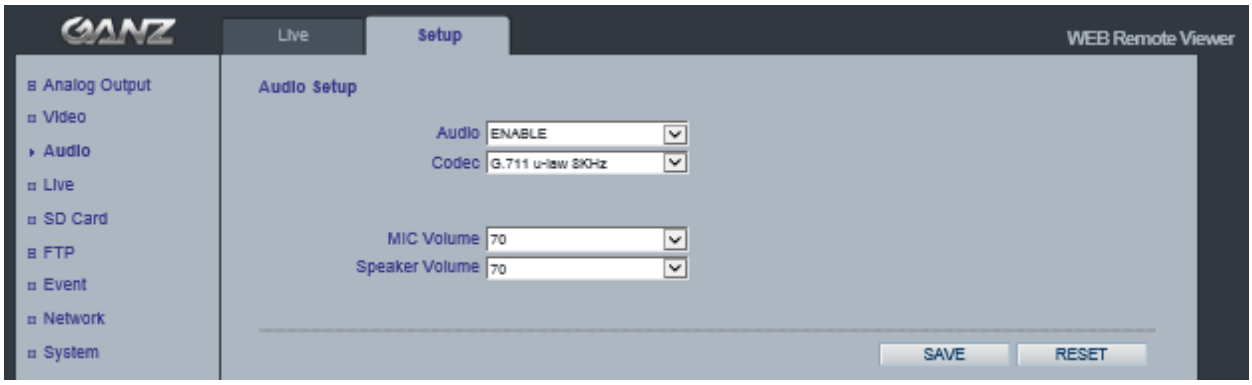
Adjust the lens (Zoom, Focus & Iris) from this window.

One Push Focus: Camera will automatically adjust the focus.
Default: Back to initial position (wide end).

Note) please click the default button to adjust the lens position to initial position, when lens adjustment does not worked fine.



# 6. Audio




The GANZ PixelPro camera could transmit audio to other clients, using a connected external microphone and could play audio received from other clients via connected speakers. This section describes how to configure the basic audio settings for the GANZ PixelPro camera, such as setting the communication mode, adjusting the sound levels in the microphone and speakers connected to the camera.

**Note:** The speakers connected to the audio output must have a built-in amplifier, such as PC speakers.

### Audio

ON/OFF ： Check this to enable audio in the GANZ PixelPro camera.

### Codec

G.711 u-law

### MIC Volume

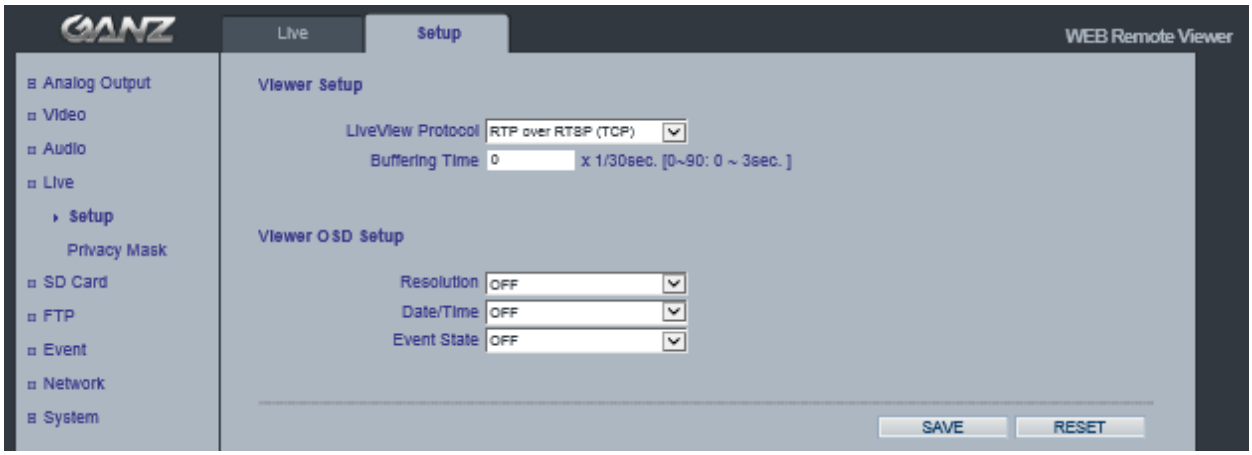
### Speaker Volume

Adjust the MIC and Speaker Volume.

### Audio Input

Audio from a connected a line source could be connected to the Audio in connector of the GANZ PixelPro camera. If there are problems with the sound input being too low or high, adjust the **input gain** for the microphone connected to the GANZ PixelPro camera.

# 7. Live




## 7.1 Setup

The GANZ PixelPro could support 10 simultaneous users. In case of multicast, the GANZ PixelPro could support unlimited number of users. If supported on the network, consider using multicasting, as the bandwidth consumption will be much lower.

### Viewer Setup

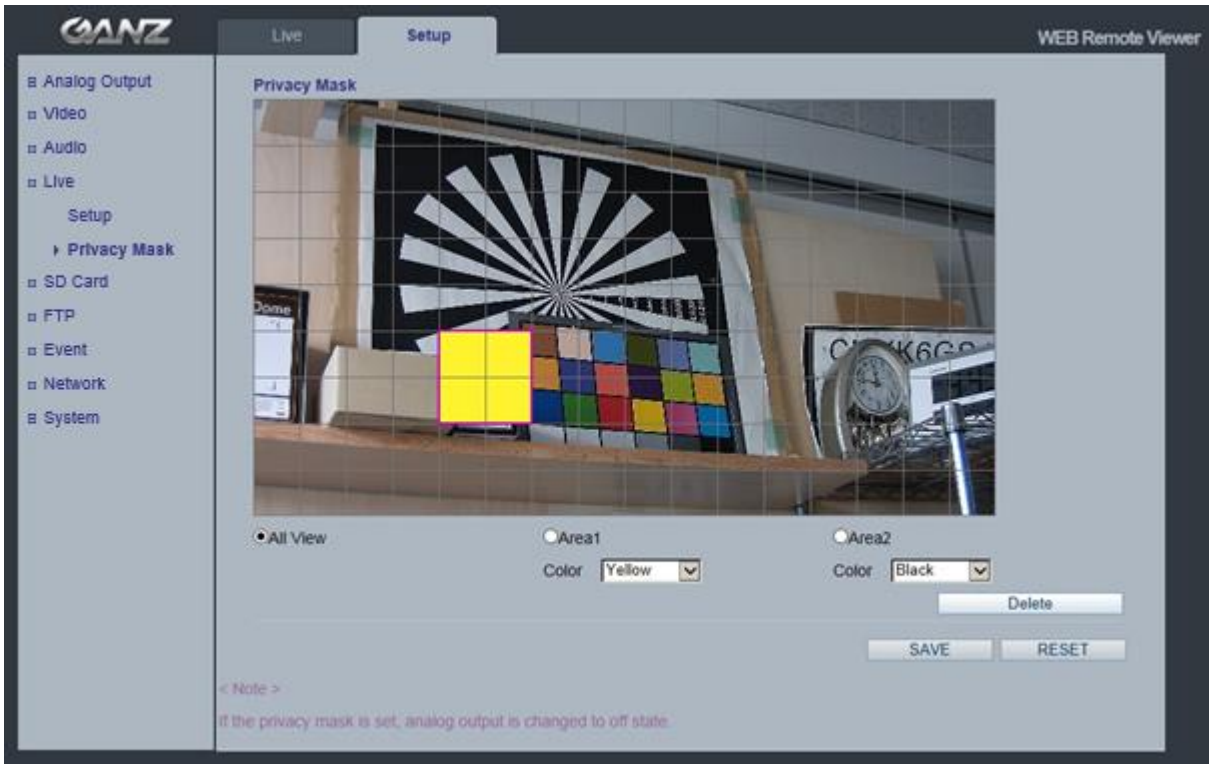
LiveView Protocol
RTP Unicast (UDP) / RTP Multicast (UDP) / RTP over RTSP (TCP)

Buffering Time (frame based)
Determines (0 ~ 90) x 1/30 sec (0 ~ 3sec)

### Viewer OSD Setup

**Date** : Determines whether the date is displayed.
**Resolution** : Determines whether the camera title is displayed.
**Event State** : Determines whether the event state is shown on display window.

## 7.2 Privacy Masking




This uses masking to hide sections that you do not want to appear in the shooting screen. Maximum 2 locations can be hidden with color.

Mask Area

All View : Shows the masking area both Area 1 and 2.

Click the Masking Area 1 or 2 to make a masking.

Mask color

Sets the mask color

Black, White, Light Gray, Dark Gray, Yellow, Red, Blue, Green

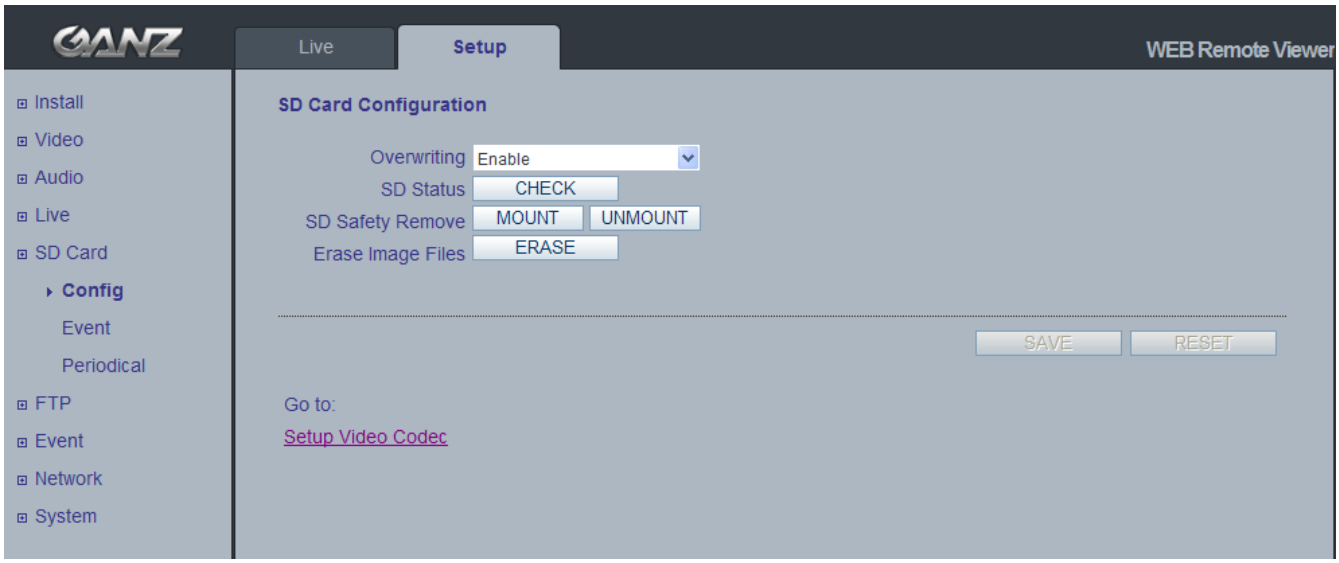
Mask Creation Procedure

1. Click **Privacy Mask** in the **Live** menu.
2. Select **Area1** or **2** to activate a setup window.
3. Set the Mask Color in the drop-down list.
4. Click the Masking window, and select an area that you want to specify the masking area.
5. Click **Save**.

Note: When the Privacy Masking is set, analogue output will be changed to OFF state automatically.

* Privacy masking is available from FW1227 and later.

# 8. SD Card




## 8.1 Configuration

**SD Card Configuration**

This configuration page allows you to save still images to the Micro SD (SDHC) card.

**Overwriting**

The system will overwrite the oldest data on the SD card to continually record the newest data.

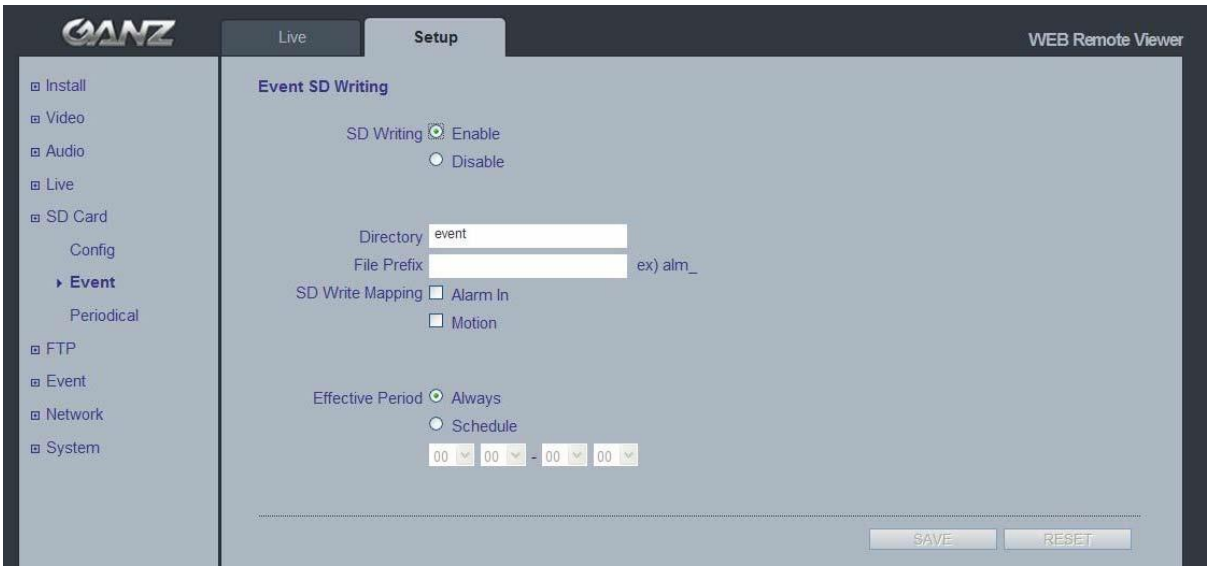
**SD Status**

Shows present SD card status. It also shows whether the SD card is present and the capacity left on it in kilobytes (KB).

**Mount / Unmount** The Mount button notifies the system after the SD card is inserted. The **Unmount** button is to notify the system before the SD card is removed. This is a similar function to the 'remove the hardware safely before taking out the USB' in the Windows OS.

NOTE: *The user can download the images from the SD card using the FTP function. Turn FTP server on and connect to the camera. See Chapter 9.1 for details.*

## 8.2 Event




**Event SD Writing**

You can configure the camera to store still images based on events such as Alarm In and Motion detection.

**SD Writing**

SD Writing will Enable / Disable event recording to the SD card.
When Disabled, all remaining menus will be deactivated.

**Directory**

The name of the sub-directory where the still images will be stored when an Event occurs.

**File Prefix**

You may add a file name prefix to the stored image file name.

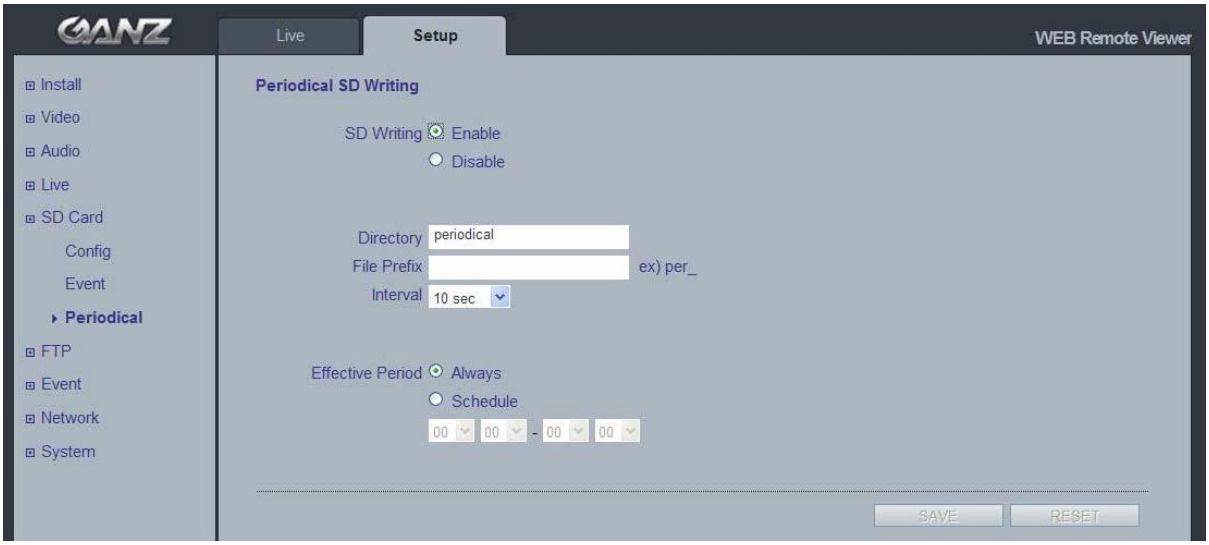
Example: *If the file prefix is 'alm', the still image would be saved as alm_date_time.jpg.*

**SD Write Mapping**

Choose which types of events will be recorded to the SD card by checking the desired event.

**Effective Period** lets you decide whether to save all the events that are happening at all hours of the day, or only the events that occur within during specific times of the day. The Schedule method is used to save events on the SD card during a specific time range. The start time and the end time can be set using the dropdown list.

# 8.3 Periodical




**Periodical SD Writing**

It is setting page to save the still images in the Micro SD card periodically.

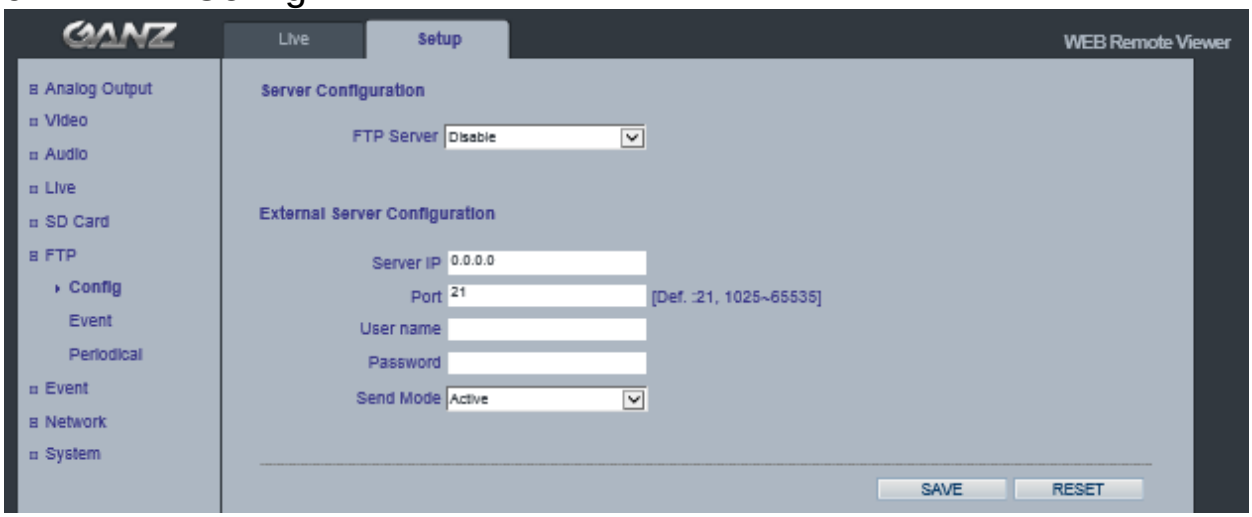
The **Directory** and **File Prefix** fields are same as on the SD Card > Event page.

**Interval** allows for saving still images based on frequency (1 image every 10 sec, for example).
Use the drop-down control to set from 10 seconds to 1 hour.

**Effective Period** is also configured the same as on the SD card > Event page.
Periodically, it saves the still image during a specific time range only.

# 9. FTP

## 9.1 FTP > Config




**Server Configuration (This function is N/A on this model)**

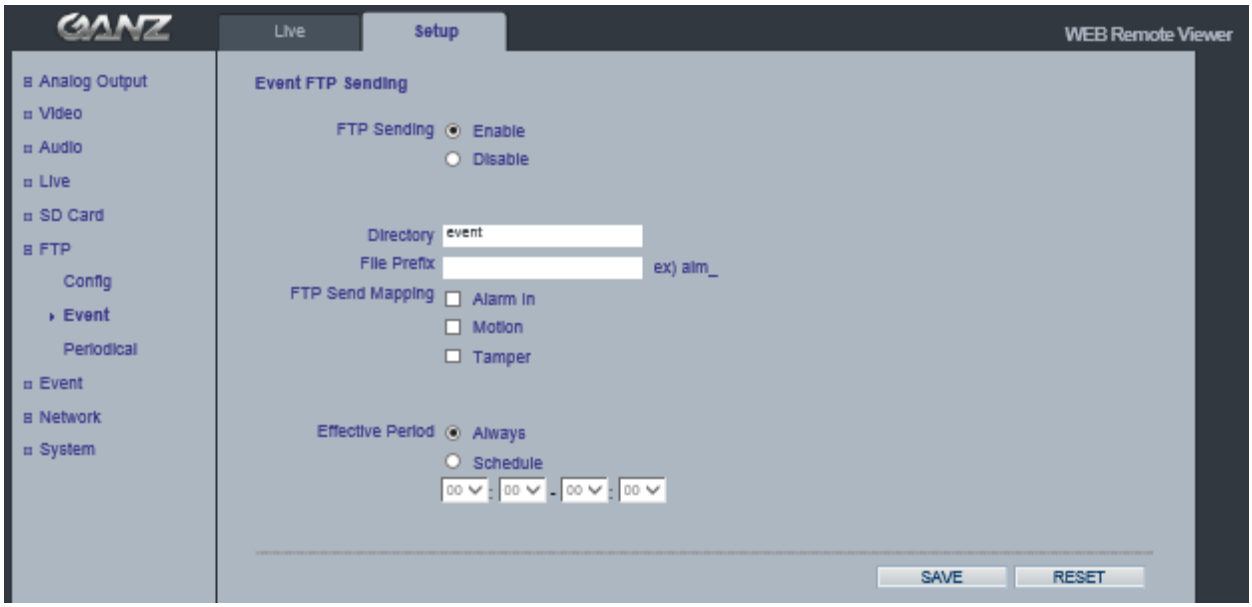
**External Server Configuration**

It is setting page to transmit the still shot to remote sites, using the FTP server. Specify the external FTP server information such as IP address, port number, Username and password.

Note :

When the first stream is set to 1920x1080, please set the 2nd stream to MJPEG or H.264 with resolution less than 352x288. If 2nd stream is set to H.264 greater than 640x352, 30fps streaming is not guaranteed due to performance limitation.

## 9.2 FTP > Event

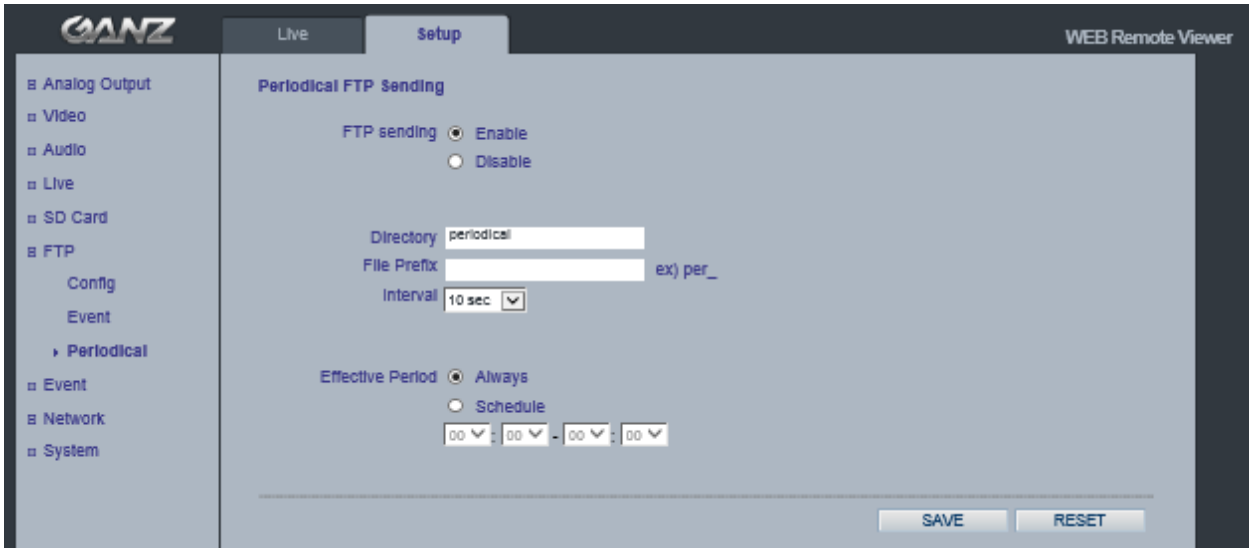


### Event FTP Sending

It enables FTP transmission triggered by event.

Directory : This folder will be created into external FTP server automatically.
File Prefix : The file name will start from this prefix.
Mapping : You can specify event mapping for Event FTP.
Effective Period : You can specify "Always" or "Schedule"

## 9.3 FTP > Periodical



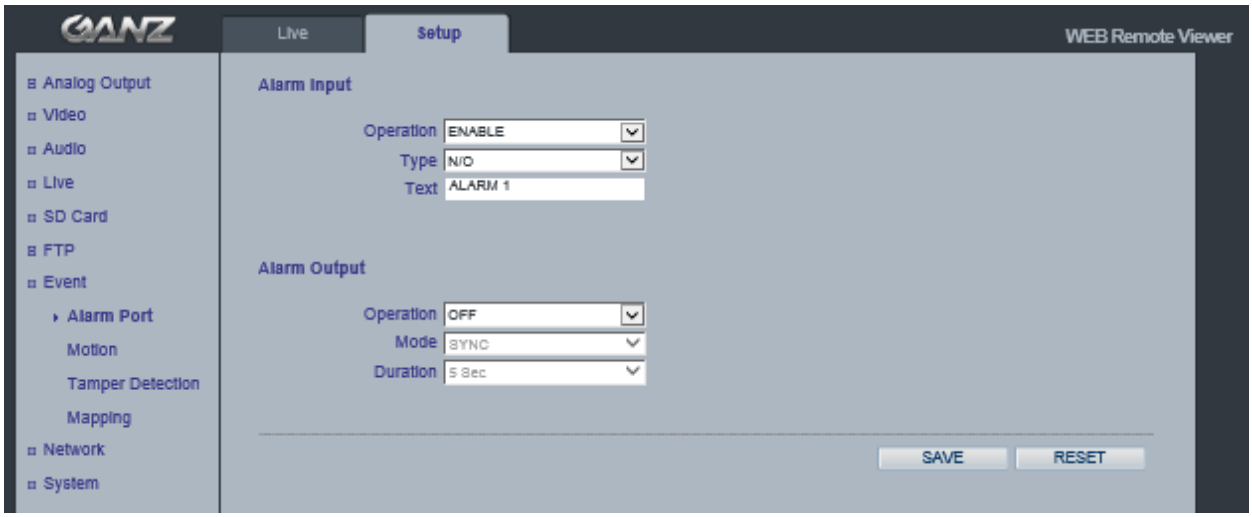

### Periodical FTP Sending

It enables FTP transmission periodically.

Directory : This folder will be created into external FTP server automatically.
File Prefix : The file name will start from this prefix.
Interval : You can specify interval time for uploading to FTP.
Effective Period : You can specify "Always" or "Schedule"

# 10. Event

## 10.1 Event > Alarm Port



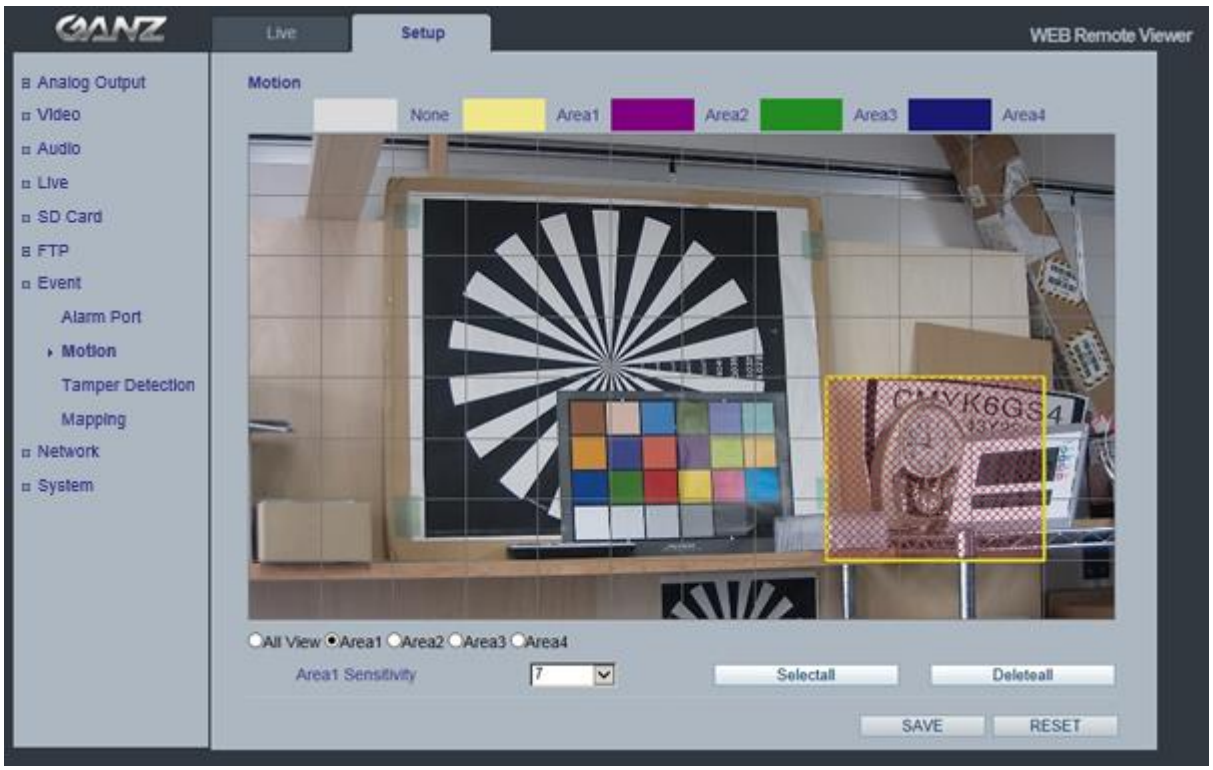

**Alarm Input** - Used for connecting external alarm devices and triggering images for specific alarm-based events. The input is typically connected to a motion detector or any other external security device, and images could be uploaded whenever the detector is activated. **Maximum 5VDC** is allowed on the input.

**Output** - This could drive a maximum load of **0.5A 125VAC / 1A 30VDC** directly or heavier loads by connecting additional relay circuitry. If the output is used with an external relay, a diode must be connected in parallel with the load for protection against any voltage transients.

**Duration -** This parameter sets the minimum tampering period, that is, an alarm will not be triggered until this period has lapsed, even if the tampering conditions are otherwise met. This could help to prevent false alarms for known conditions that affect the image.

**Caution!** Connecting AC to the inputs/outputs will damage the unit.
Please note the connection, voltage and current.

## 10.2 Event > Motion




### Motion Detection

Motion detection is used to generate an alarm event with analyzes the video whenever objects movements occurs in the video image. Maximum 4 windows can be configured.

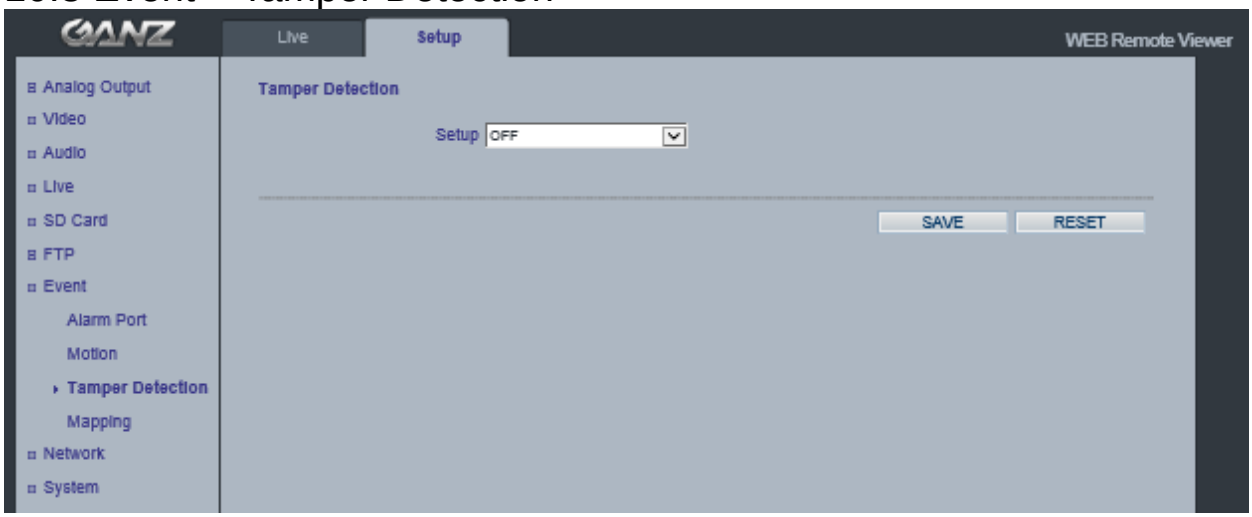
Area Sensitivity：1(low) ~ 10(High) – The higher the number is, the higher the sensitivity level becomes.

#### Configuring Motion Detection

1. Click **Motion Detection** in the **Event Config** menu.
2. Select an Area from **Area1** to **4** to activate a Motion setup window.
3. Click the Motion window, and select an area that you want to specify the Motion area.
4. Select sensitivity value (1 ~ 10) in the drop-down list.
   Any detected motion within an active window is then indicated by red shade onto the **Activity** window.
5. Click **Save**.

**Note:** Using the motion detection feature might decrease the camera's overall performances, depending on camera settings.

## 10.3 Event > Tamper Detection

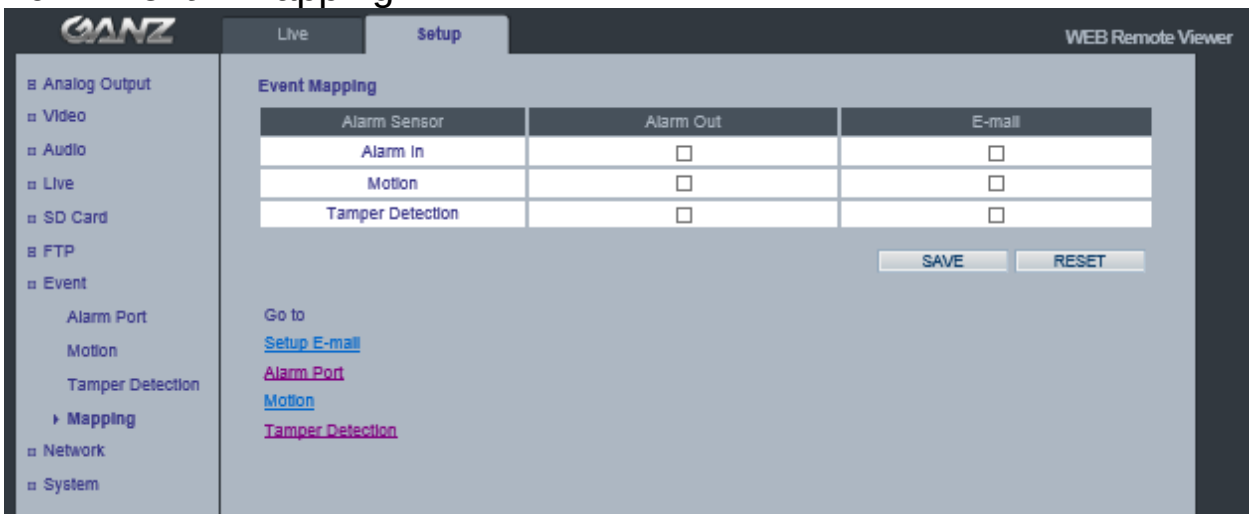



### Tamper Detection

Camera detects the tampering with analyzes the video image. When the camera angle is moved, covered or sprayed to the front cover, defocusing severely, it can be triggered to an alarm event.
Tamper detection can be set to LOW, MID, HIGH or OFF.

Notes: Too simple or dark background cause detection fail ratio.
Indoor light (or similar situation) turn ON or OFF would cause False Detections.
If the video scene is similar or same between 'before' and 'after' angle change, it cause detection fail.
This function is added from FW1558 and later.

## 10.4 Event > Mapping

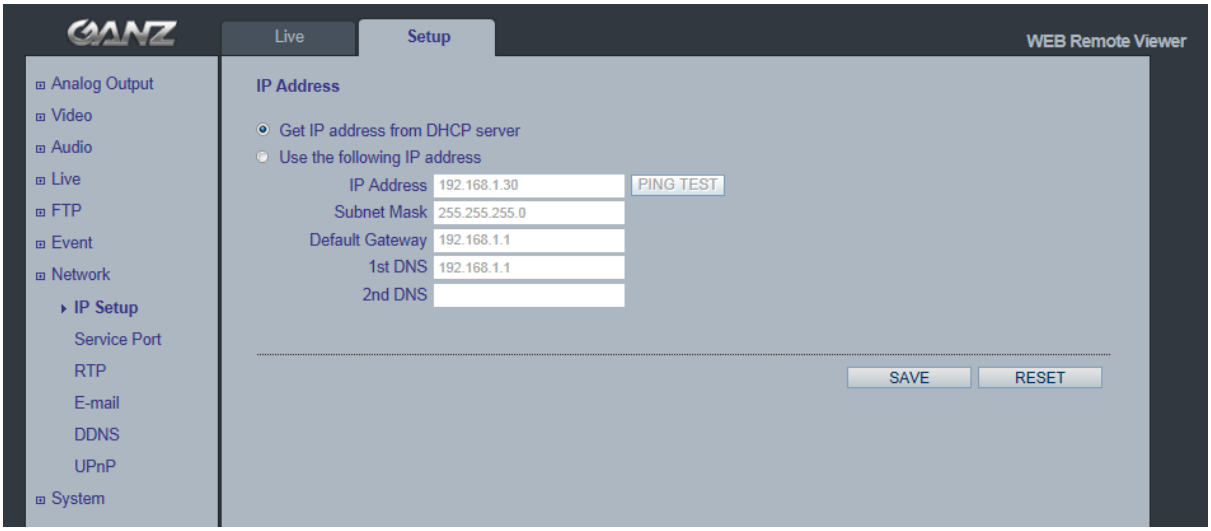



It is possible to define conditions that would cause the camera to respond with certain actions. A triggered event happens as a result of a trigger, which could be motion detection, an external alarm input or tamper detection.

For example,
Alarm out events could be triggered by video motion detection, alarm in or tamper detection.
E-mail could be sent by either video motion detection, alarm in or tamper detection.

# 11. Network

## 11.1 Network > IP Setup




**Network Settings**

Click the **Setup > Network > IP Setup** to see the current network settings.

**IP Address Configuration -**

The GANZ PixelPro supports both IP version 4 and IP version 6 **(IPv6 will be supported in V3.00)**. Both versions may be enabled simultaneously, and at least one version should be always enabled.
When using IPv4, the IP address could be set automatically via DHCP, or a static IP address could be set manually. If IPv6 is enabled, your camera receives an IP address according to the configuration in the network router.
There are also options for setting up notification of changes in the IP address, and for using the Internet Dynamic DNS Service.

**Notes:** • ***To receive notification whenever the camera's IP address changes (via e.g. DHCP), configure the options for notification of IP address change. See Services below. • If your DHCP server could update a DNS server, you could access the GANZ PixelPro by a host name which is always the same, regardless of the IP address.***

**DNS Configuration**

DNS (Domain Name Service) provides the translation of host names to IP addresses on your network.

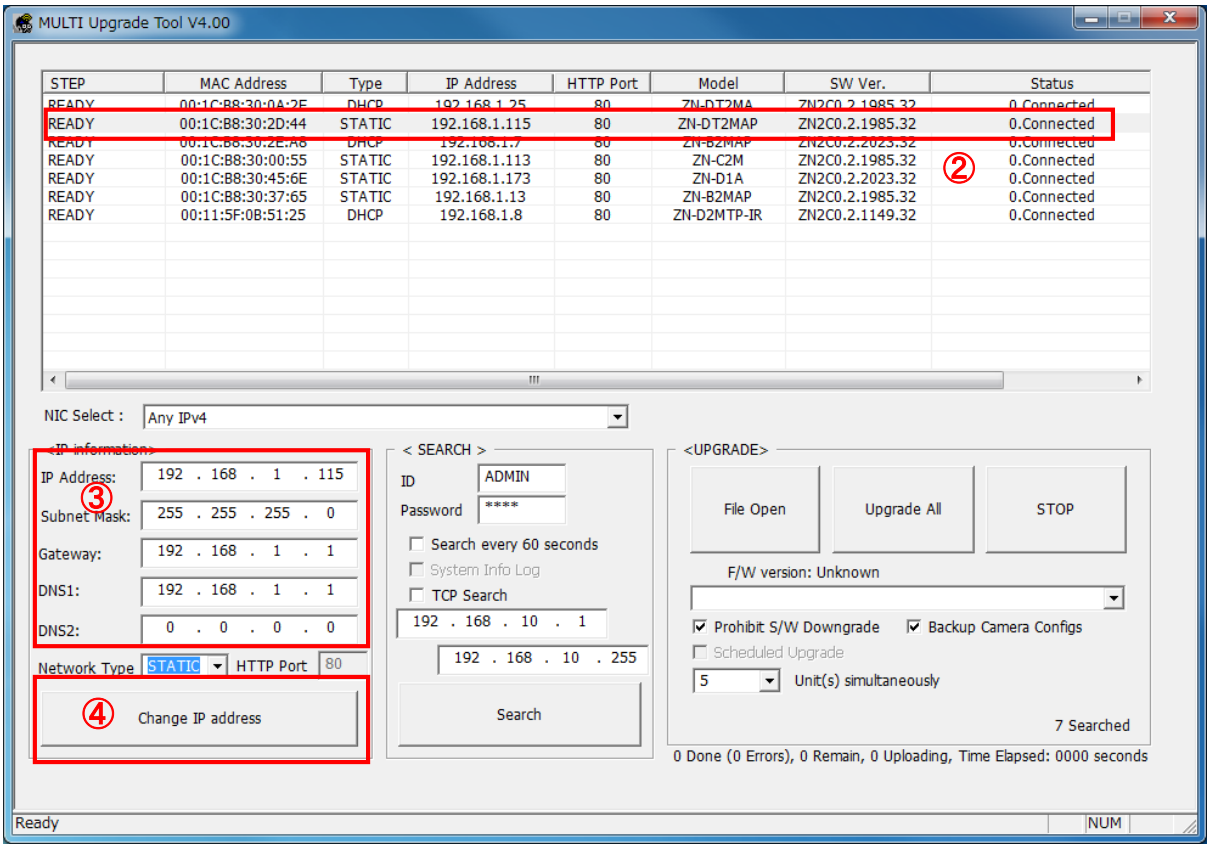
**•1st DNS server**
Enter the IP address of the primary DNS server for your network.

**•2nd DNS server**
Enter the IP of the Secondary DNS, which is used if the Primary DNS server is unavailable.

## How to assign IP address

Default setting is set to "DHCP" and "UPnP" function is set to ON.
If your network has DHCP server and UPnP function is enabled on your PC, you can find the network camera in "My network".

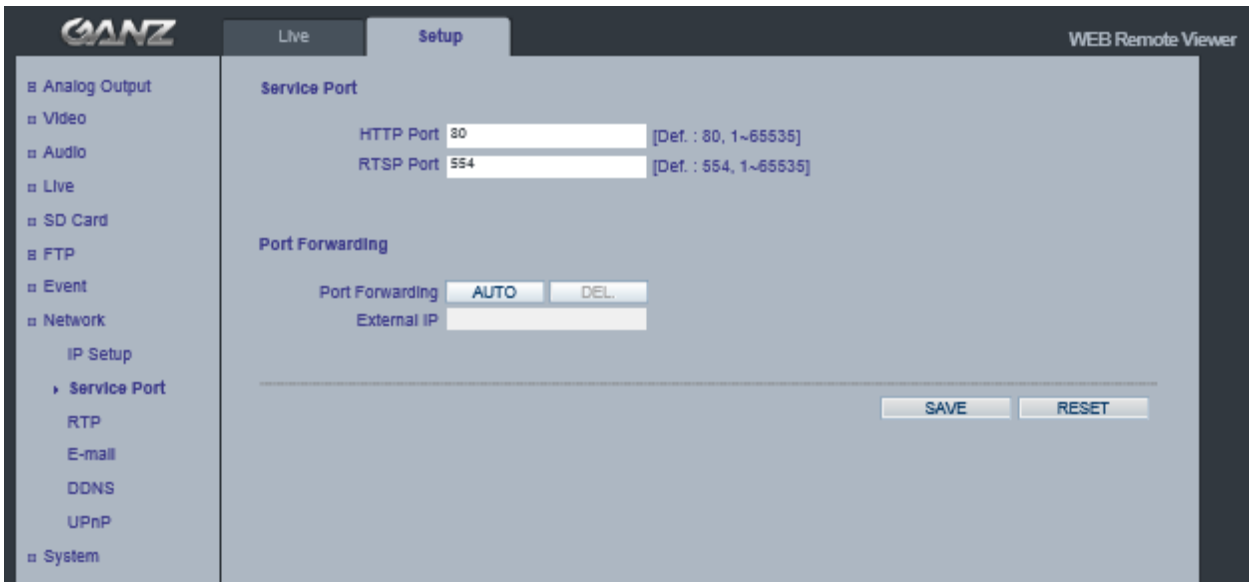
If DHCP server is not available in your network, please assign IP address as following process.


MULTI Upgrade Tool V4.00
STEP
MAC Address
Type
IP Address
HTTP Port
Model
SW Ver.
Status
READY 00:1C:B8:30:2D:44 STATIC 192.168.1.115 80 ZN-DT2MAP ZN2C0.2.1985.32 0.Connected
READY 00:1C:B8:30:00:55 STATIC 192.168.1.113 80 ZN-C2M ZN2C0.2.1985.32 0.Connected
READY 00:1C:B8:30:45:6E STATIC 192.168.1.173 80 ZN-D1A ZN2C0.2.2023.32 0.Connected
READY 00:1C:B8:30:37:65 STATIC 192.168.1.13 80 ZN-B2MAP ZN2C0.2.1985.32 0.Connected
READY 00:11:5F:0B:51:25 DHCP 192.168.1.8 80 ZN-D2MTP-IR ZN2C0.2.1149.32 0.Connected
②
NIC Select : Any IPv4
<IP information>
IP Address: 192 . 168 . 1 . 115
Subnet Mask: 255 . 255 . 255 . 0
Gateway: 192 . 168 . 1 . 1
DNS1: 192 . 168 . 1 . 1
DNS2: 0 . 0 . 0 . 0
③
Network Type STATIC HTTP Port 80
④ Change IP address
< SEARCH >
ID ADMIN
Password ****
Search every 60 seconds
System Info Log
TCP Search
192 . 168 . 10 . 1
192 . 168 . 10 . 255
Search
<UPGRADE>
File Open
Upgrade All
STOP
F/W version: Unknown
Prohibit S/W Downgrade
Backup Camera Configs
Scheduled Upgrade
5 Unit(s) simultaneously
7 Searched
0 Done (0 Errors), 0 Remain, 0 Uploading, Time Elapsed: 0000 seconds
Ready
NUM

1) Execute "MultiUpgradeTool.exe", it will search the camera on the network.
2) After the camera is listed in camera list, select the camera.
3) Type in the all network information.
4) Click "Change IP address" button to set network settings to the camera.

When you double-click the camera within the list, the default web browser (Internet Explorer or compatible equivalent) will open and automatically connect to the camera.

## 11.2 Network > Service Port



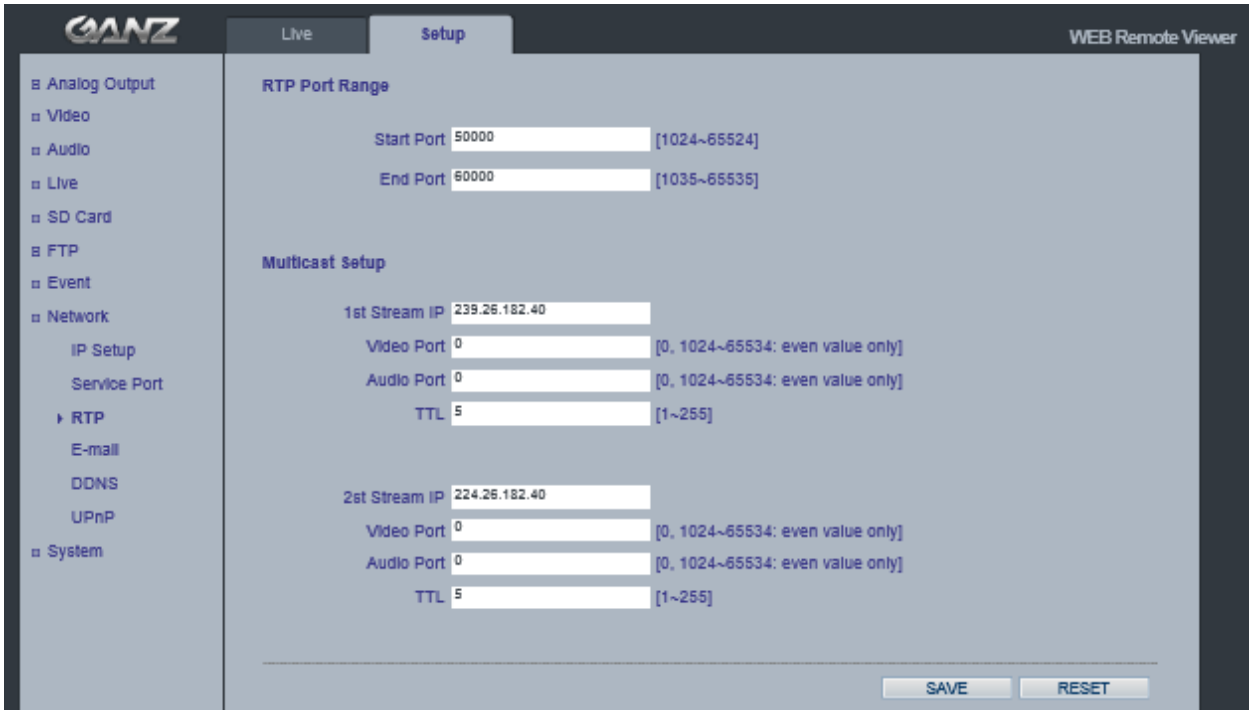

### Service Port

**HTTP port-** The default HTTP port number **(80)** could be changed to any port within the range 1-65535. This is useful for simple port mapping.

**RTSP port-** The RTSP protocol allows a connecting client to start an H.264 stream. Enter the RTSP port number to use. The default setting is **554**.

NOTE*: After changing the default port numbers, the user can use the "MultiUpgradeTool.exe" to search and connect automatically.*

## 11.3 Network > RTP

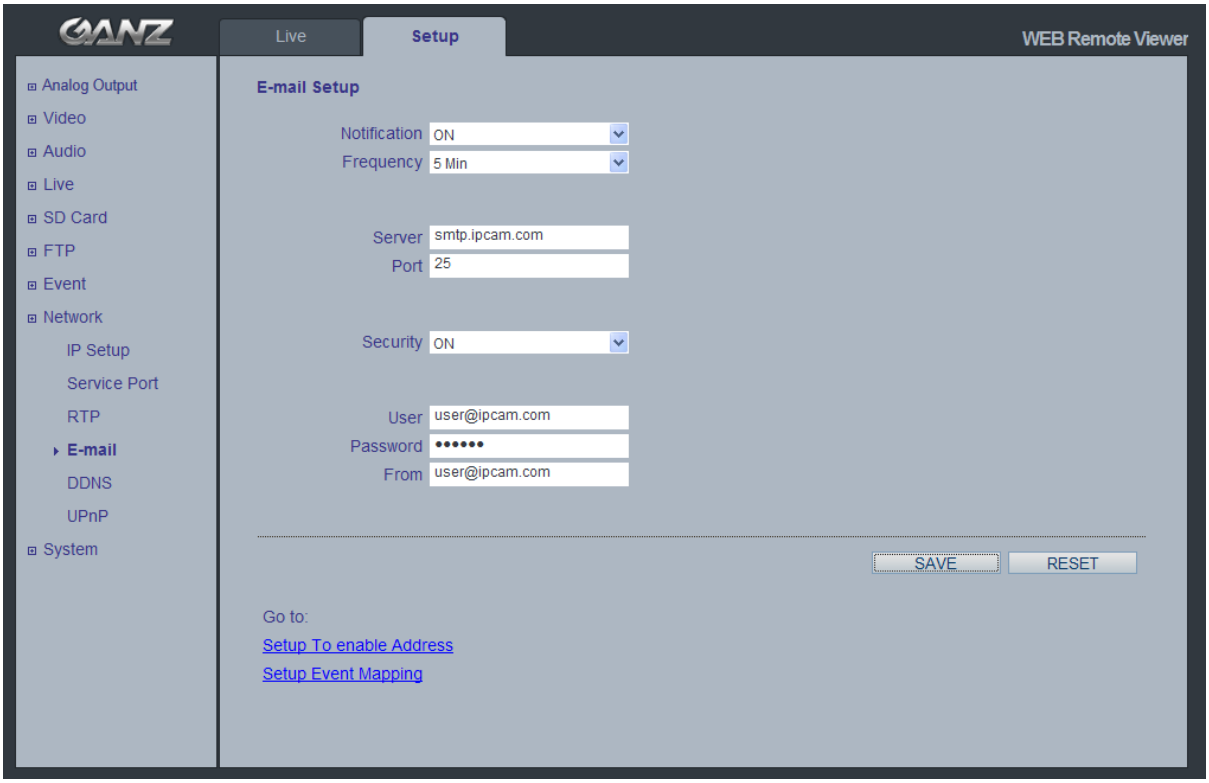


### RTP port range, Multicast Setup

These settings are the IP address, port number, and Time-To-Live value to use for the video stream(s) in multicast H.264 format.

Only certain IP addresses and port numbers should be used for multicast streams.

## 11.4 Network > E-mail




You must turn Notification to 'On' and then enter the host names or addresses for your mail servers in the fields provided, to enable the sending of event and error email messages from the camera to predefined addresses via SMTP.

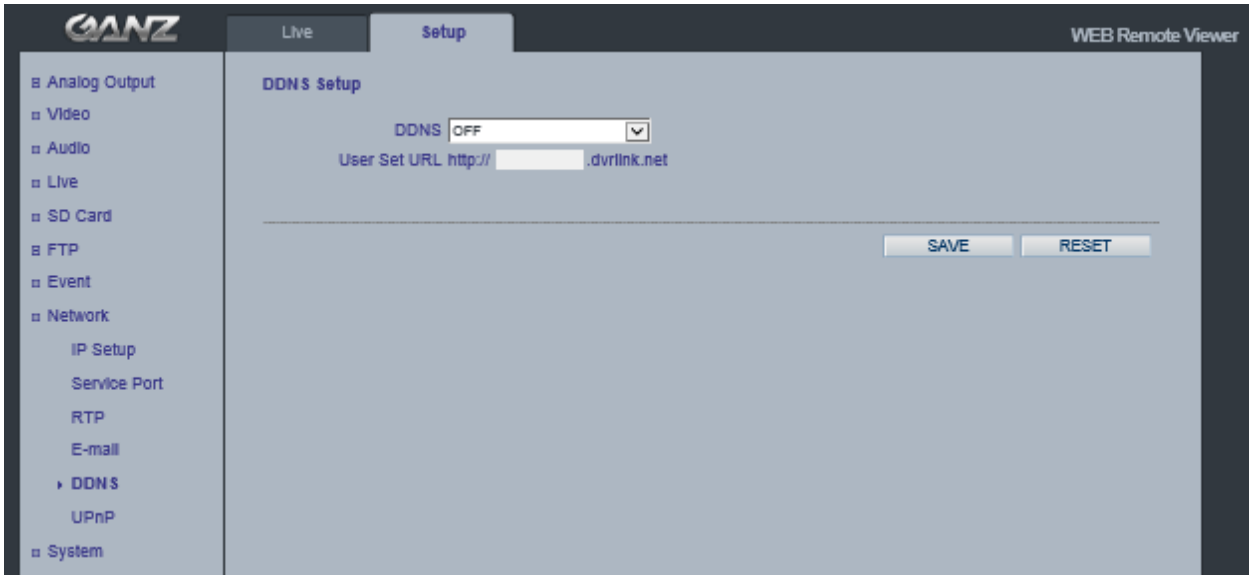
Note1)

Frequency : Mail server may register the sender to SPAM list when frequency is set to "1 Min". It may be better to set "5 Min" for safe side.

Note2)

From : Specify the name who sent e-mail notification. It may be better to use e-mail format like as aaa@bbbb.com. Some e-mail server will refuses it.

## 11.5 Network > DDNS




*How to setup the DDNS:*

1) DDNS set to ON.

"*mac address*.dvrlink.net" is registered to the DDNS server.
User can connect to the camera with: "http://*mac address*.dvrlink.net".

2) DDNS set to ON and user inputs "*user-defined name*".

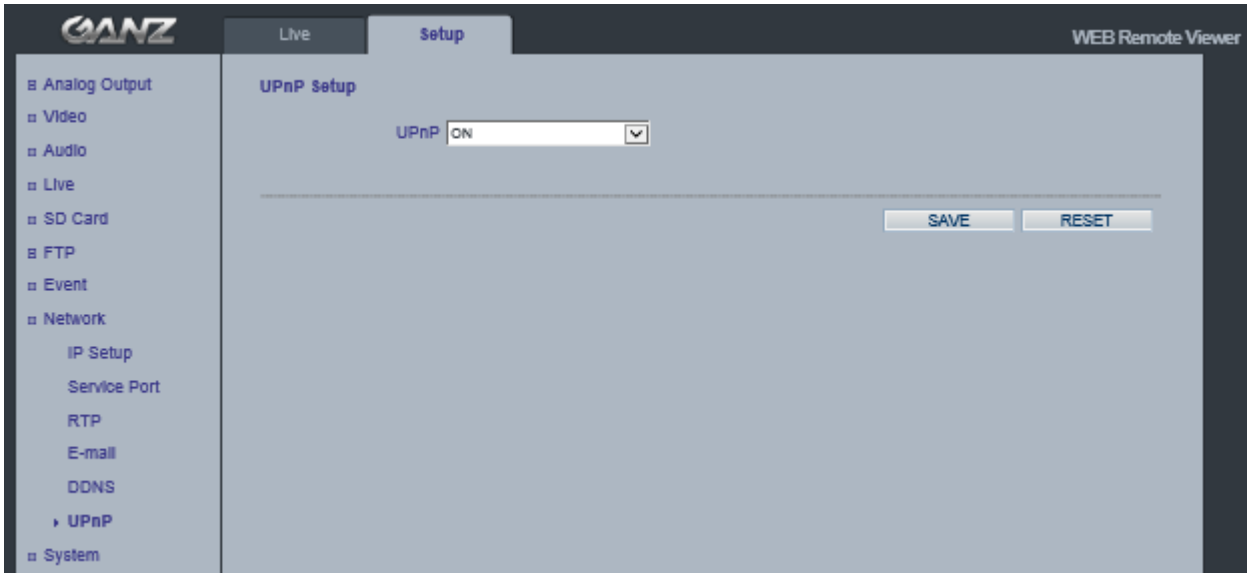
"*mac address*.dvrlink.net" and "*user-defined name*.dvrlink.net" are both registered together.

User can connect to the camera using either:

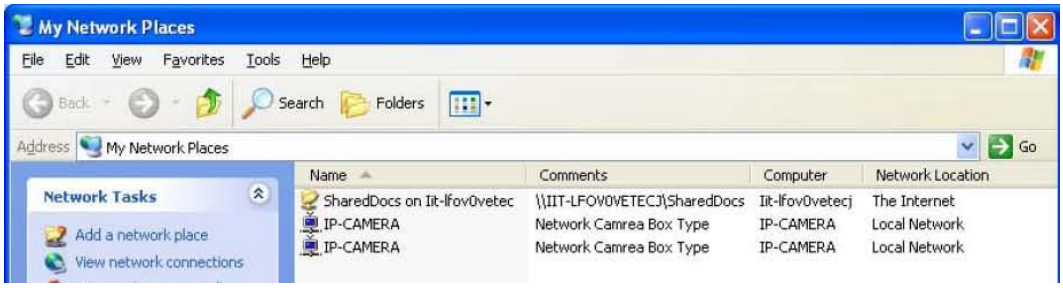
"http://*mac address*.dvrlink.net" or "http://*user-defined name*.dvrlink.net".

If "*user-defined name*" is already registered, an error message is shown, try a different name.

## 11.6 Network > UPnP



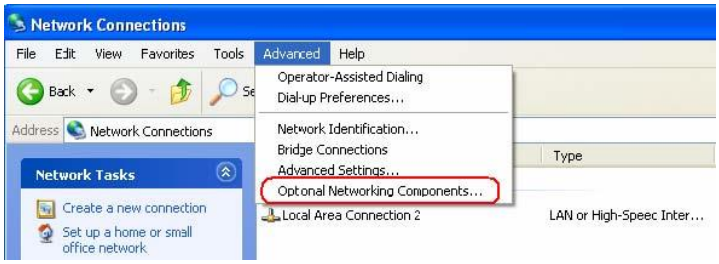

Universal Plug & Play (UPnP) allows you to find the IP camera automatically on your network.



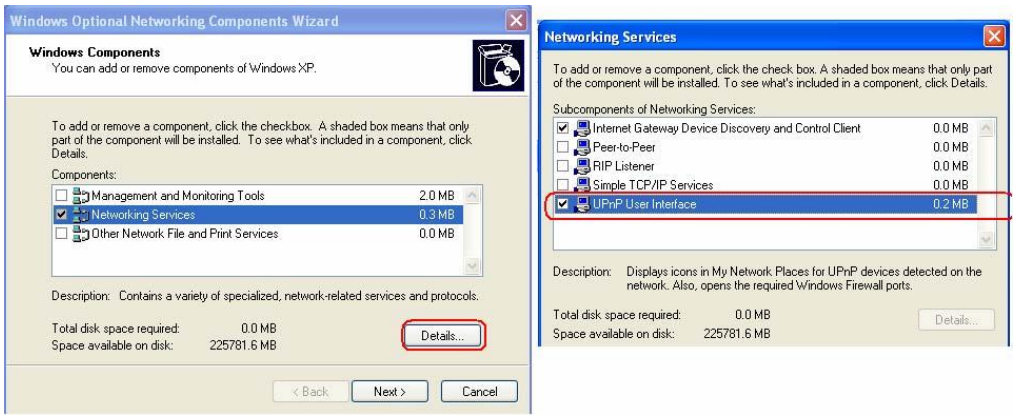

In order to be able to detect the camera automatically, you must enable the UPnP function on both the camera and on your PC.

Camera : Set UPnP to "ON"

PC : Open "Control Panel" >"Network Connection"
Select "Advanced" >"Optional Networking Components…"

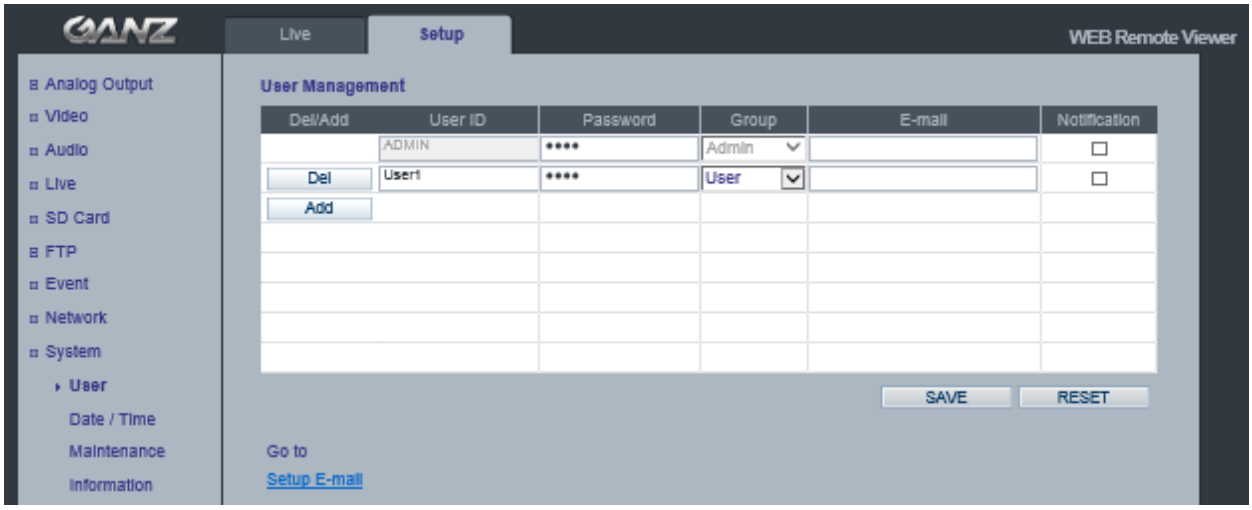


Select "Network Services" and click "Details". Then select "UPnP user Interface"


Windows Optional Networking Components Wizard
Windows Components
You can add or remove components of Windows XP.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Management and Monitoring Tools 2.0 MB
Networking Services 0.3 MB
Other Network File and Print Services 0.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 0.0 MB
Space available on disk: 225781.6 MB
Details...
< Back
Next >
Cancel
Networking Services
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Networking Services:
Internet Gateway Device Discovery and Control Client 0.0 MB
Peer-to-Peer 0.0 MB
RIP Listener 0.0 MB
Simple TCP/IP Services 0.0 MB
UPnP User Interface 0.2 MB
Description: Displays icons in My Network Places for UPnP devices detected on the network. Also, opens the required Windows Firewall ports.
Total disk space required: 0.0 MB
Space available on disk: 225781.6 MB
Details...

# 12. System

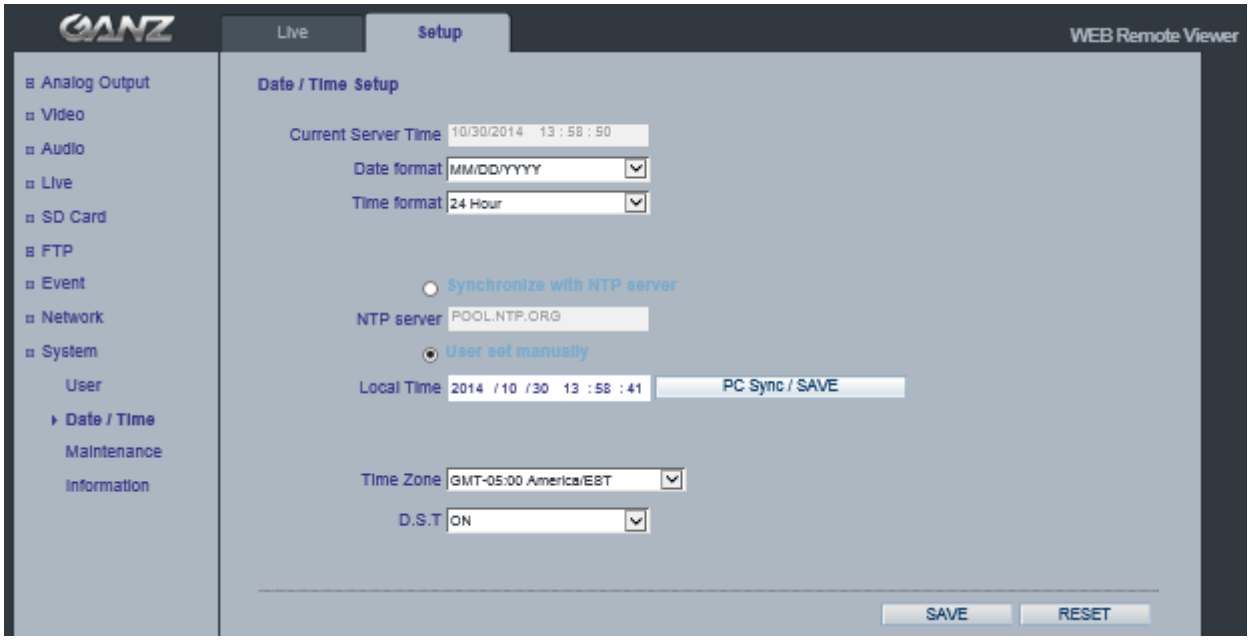
## 12.1 System > User




Access the camera and the **Configure Root Password** dialog appears.
Enter the User name: **ADMIN** and password is 1234.
To changed password or add a user click SETUP > SYSTEM > USER. Fill the User ID, Password and E-mail server. Select Group. Then press ADD button and click SAVE.

***Note:*** *The default administrator user name **ADMIN** is permanent and could not be deleted or altered.*

## 12.2 System > Date & Time



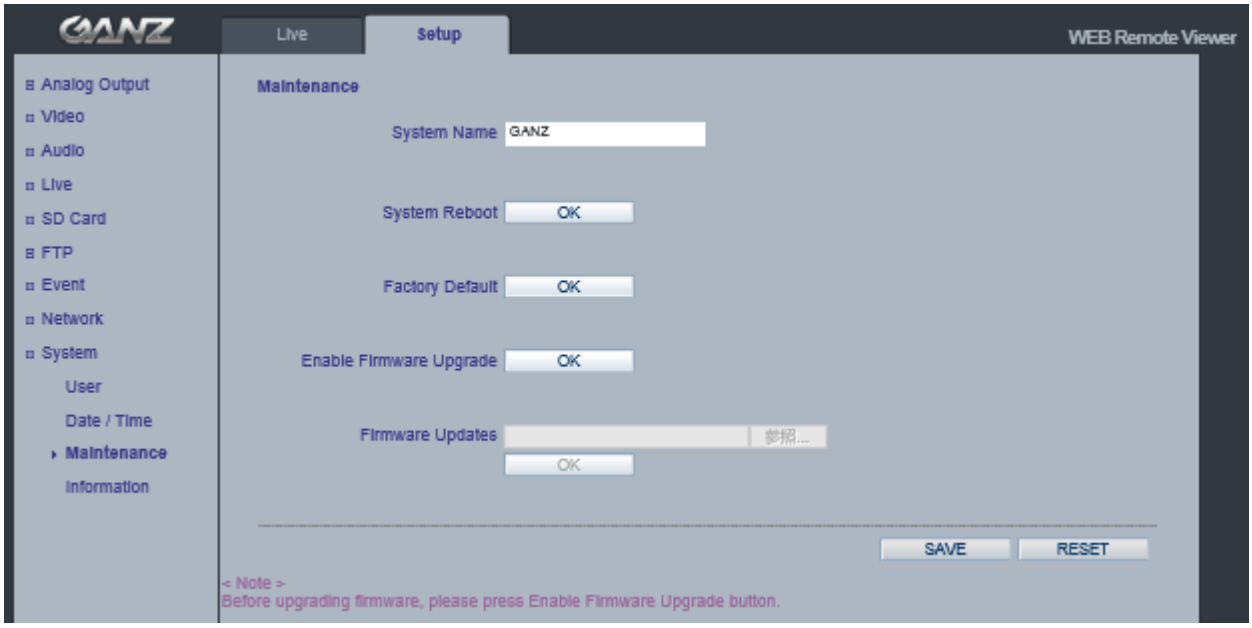

**Date & Time Format** - specify the formats for the date and time (12h or 24h) displayed in the Live View video streams. Use the predefined formats or use your own custom date and time formats.

**Network Time Server** - the camera will obtain the time from an NTP server every 60 minutes. Specify the **NTP server**'s IP address or host name.

**Time zone setup –** Select your time zone from the drop-down list.

**D.S.T (Daylight Saving Time)** - ON/OFF

## 12.3 System > Maintenance




**System Name**
Choose a system name to identify the camera when using e-mail notifications.

**System Reboot**
Reboot the camera.

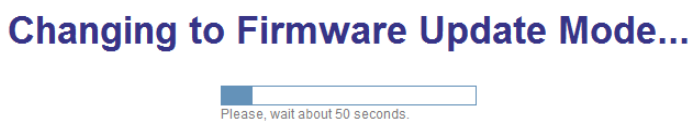
**Factory Default**
To reset the camera settings to the original factory default settings.

### Enable Firmware Upgrade / Firmware Updates

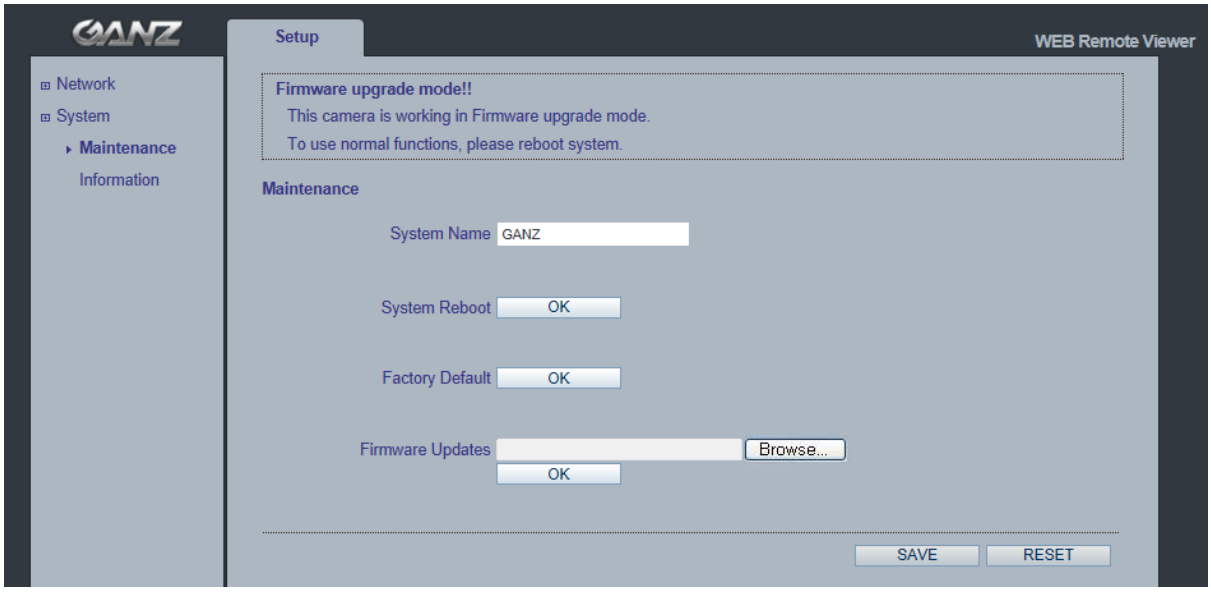
To upgrade Firmware of the camera, follow the instruction below.

NOTE: *Preconfigured and customized settings should be saved before the firmware is upgraded.*

1) Enable Firmware Upgrade mode with clicking "OK" of Enable Firmware Upgrade menu.
2) The camera automatically switches to Firmware Upgrade mode.



3) When Firmware upgrade menu is displayed, browse to the desired firmware file on your computer. Click OK.




NOTE: *Do not disconnect power to the unit during the upgrade. The unit will restart automatically after the upgrade has completed. (1~5 minutes)*

## System Reset (Factory Default Reset)

There are two ways to reset the camera back to factory default. holding down about 10-20 sec the reset button on the Network cable

*Using the web browser:*

1. Go to SETUP > System > Maintenance.

2. Click Factory Default Button and wait 1 minute for camera to reboot.

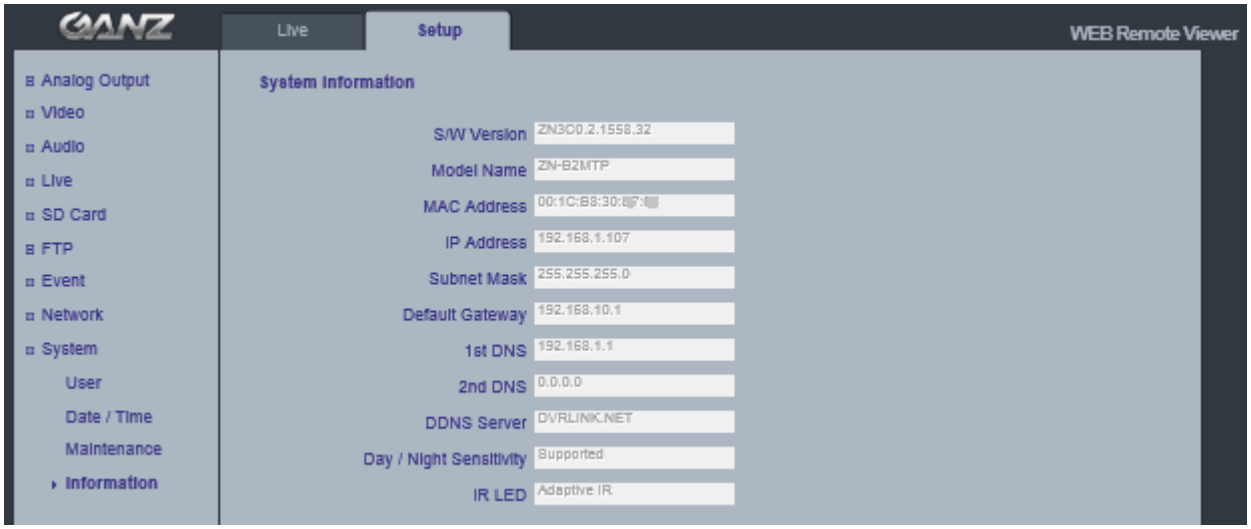
*Using the Reset Button:*

1. Holding down 15-20 sec the reset button on the Network cable.

2. Release your finger on the reset button, waiting about 1 minute for camera reboot

NOTE: *The unit will now have the default IP address from a DHCP server.*
*Use the "MultiUpgradeTool.exe" to discover and connect to the camera.*

# 12.4 System > Information

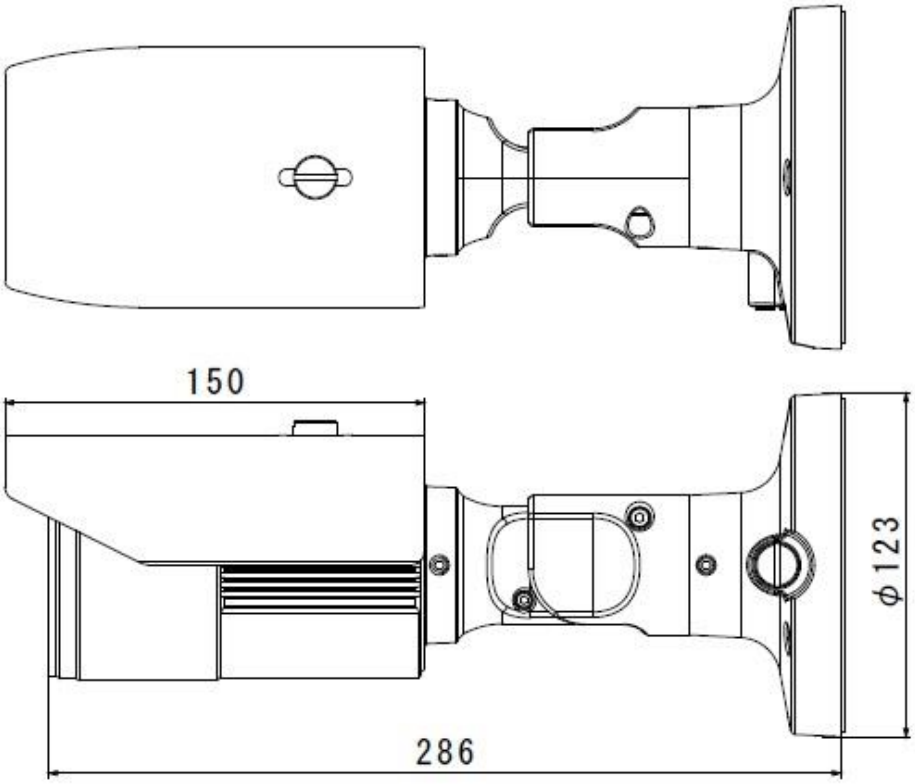



### System Information

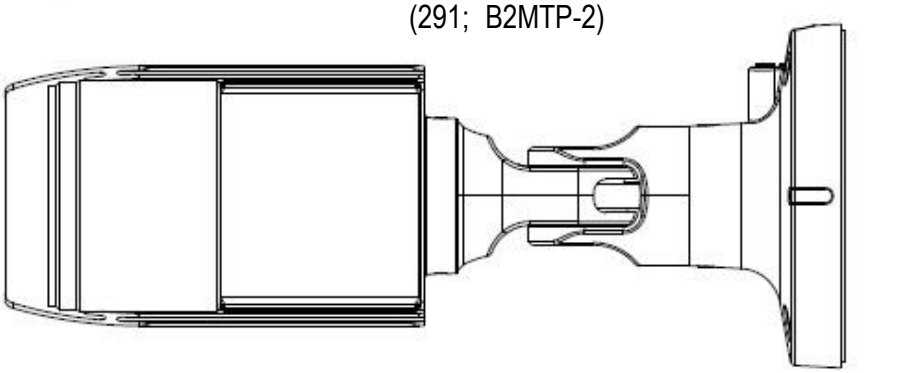
You can confirm the system information about the camera here.

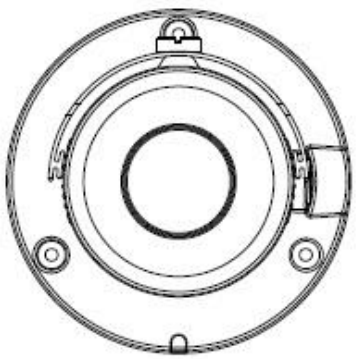
# 13. Dimensions

### 13-1. Without Mount Bracket

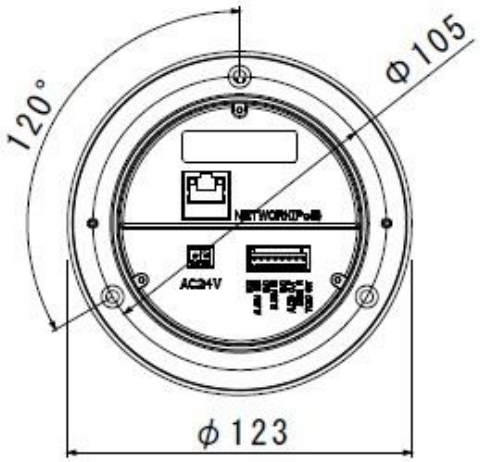



(291; B2MTP-2)





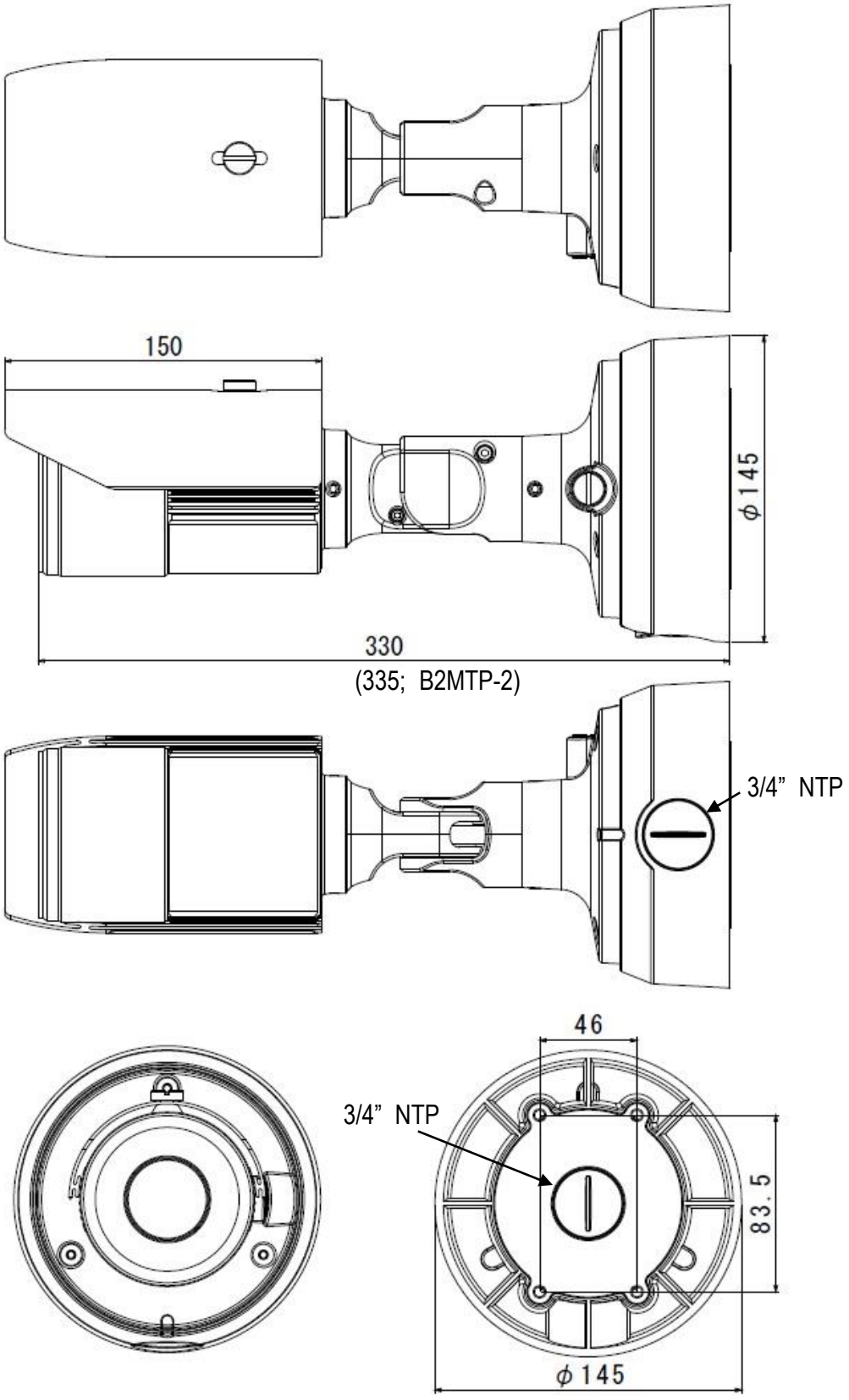
-Top view-




-Bottom view-

UNIT: mm

### 13-2. With Mount Bracket




-Top view-

-Bottom view-

UNIT: mm

# 14. Specifications

| | | |
|---|---|---|
| **Product Features** | | H.264 / MJPEG Network Camera |
| | | Dual Stream |
| | | Motion Triggered Alarm/ External Alarm In |
| | | Multi Language GUI support |
| | | ONVIF Compliant |
| | | Dual Power: 24VAC, PoE(802.3af) |
| | | SONY CMOS Sensor IMX122 |
| | | On The Fly supported @ GOP/Bitrate/FPS stetting |
| | | 2D DNR. (Depends on CODEC configuration)<br>- 3D TBD |
| | | DPC(Defective Pixel Correction) on the fly |
| | | 42 IR LEDs |
| | | Motorized Zoom, Focus and P-iris |
| | | True Day & Night |
| | | Analog Hybrid Output(Installation Only) |
| | | Micro SD card slot |
| | | Heater |
| | | Fan |
| | | Privacy Masking |
| **CAMERA** | **Image Sensor** | 1/2.8" Sony IMX122 CMOS Sensor |
| | **Max. Resolution** | 1920 x 1080; (2MTP), 1280 x 1024; (1MTP) |
| | **Effective Pixels** | 1984(H) x 1225(V) |
| | **Effective Image Size** | 5.56mm(H) x 3.43mm(V), 6.53mm(Diagonal) |
| | **White Balance** | ATW / MANUAL(PRESET) |
| | **Electronic Zoom** | 2 ~ 10x(Client Software) |
| | **AGC** | Yes |
| | **BLC** | Yes |
| | **Iris** | Motorized Iris / MANUAL / AES |
| | **Shutter Speed** | 1/4, 1/10, 1/12.5, 1/15, 1/20, 1/25, 1/30, 1/50, 1/60, 1/100,<br>1/120, 1/240, 1/480, 1/960, 1/1024, 1/2000s |
| | **Slow Shutter** | 2x, 4x, 8x |
| | **Lens** | Motorized Zoom and Focus lens<br>ZN-B2MTP ; f=3~9mm, F1.2~2.1<br>ZN-B2MTP-2 ; f=10-23mm, F1.6~2.6 |
| | **Angle of View** | ZN-B2MTP;<br>Horizontal ; f=3mm(Wide) 104.2˚ , f=9mm(Tele) 35.5˚<br>ZN-B2MTP-2;<br>Horizontal ; f=10mm(wide) 30.5˚ ,f=23mm(Tele) 13.2˚ |
| | **Day & Night** | Removable IR Cut Filter |
| | **S/N ratio** | 48.8 dB or more |
| | **Min. illumination** | Color IR LED ON<br>ZN-B2MTP ; 0.16 lux 0 lux<br>ZN-B2MTP-2 ; 0.29 lux 0 lux |
| **ANALOG (Installation Only)** | **Video Signal** | NTSC / PAL selectable |
| | **Monitor Output** | Composite Output(BNC), 75 ohm 1Vpp |
| | **Scanning Frequency** | NTSC: (H) 15.734 kHz, (V) 59.94 Hz |
| | | PAL: (H) 15.625 kHz, (V) 50 Hz |
| **AUDIO** | **In/Out** | Line in, Line out |
| | | External Amplifier is needed |
| | **CODEC** | G.711 / 8K sampling |

| | | |
|---|---|---|
| **NETWORK** | **Network** | 10BASE-T, 100BASE-TX, RJ45 |
| | **Image Compression** | H.264 |
| | | MJPEG : Image quality: 100 Steps(Q value) |
| | **Resolution** | 1920 x 1080(Full HD; B2MTP), 1280 x 1024(SXGA), |
| | | 1024x768(XGA), 1280 x 720(720p) |
| | | 640 x 480(VGA), 640 x 360(HVGAW), 320 x 240(QVGA) |
| | | 704x480/576(4CIF), 352x240/288(CIF) |
| | **Protocol** | IPv4, HTTP, SMTP, UPnP, DNS, |
| | | RTSP, DDNS, RTP, TCP, UDP, RTCP, |
| | | DHCP, ARP, IGMP, ICMP, NTP, FTP |
| | **Frame Rate** | 1 fps ~ 25 fps / 1 fps ~ 30 fps |
| | **Web Browser** | Internet Explorer 7.0 or above |
| | | Firefox |
| | | Chrome |
| | | PDA / Smart phone |
| | **Security** | Password Protection |
| | **SDK(API)** | HTTP based API<br>ONVIF Profile S |
| | **VMD** | User set 4 ROI(Region Of Interest) |
| | | 10 Step Sensitivity |
| | **Alarm Trigger** | VMD, External Alarm Input |
| | **Alarm Event** | E-mail notification(Snapshot), FTP transfer(Snapshot),<br>microSD Card(Snapshot), Alarm out<br>MJPEG image streaming with alarm status(TBD) |
| **POWER** | **Power Consumption** | 1.0A @ AC24V, 10.3W (Heater OFF)<br>1.63A @ AC24V, 18.4W (Heater ON)<br>220mA @ DC48V(PoE), 10.6W (Heater OFF) Class0 |
| | **Heater** | 5W (AC24V is required) |
| **OTHER SPECIFICATIONS** | **microSD Card** | SDHC card compatible<br>SanDisk, Transcend, Kingstone, Toshiba:<br>2G, 4G, 8G, 16G and 32GB |
| | **External I/O Terminals** | Alarm In x1: NO/NC Dry contact<br>Alarm Out x1: Relay output |
| | | Audio In x1, Audio Out x1 |
| | **IR Number** | 42 IR LEDs |
| | **FAN Number** | 1 |
| | **Ambient Temperature (Not Include Cold Start)** | -10ºC ~ 50ºC(14ºF~122ºF) |
| | | With Heater -40ºC ~ 50ºC(-40ºF~122ºF) |
| | **Ambient Humidity** | less than 90%, Non-condensing |
| | **Materials** | Aluminum Diecasting |
| | **Weight** | 2.0 kg |
| | **Dimensions(W x H x D)** | ZN-B2MTP ; Φ145 X 330(H) mm<br>ZN-B2MTP-2 ; Φ145 X 335(H) mm |
| | **IP Rating** | IP66 |

* The specifications and/or appearance of the product may change without a prior notice.

## Français/French

### Élimination de votre ancien appareil

1. Ce symbole, représentant une poubelle sur roulettes barrée d'une croix, signifie que le produit est couvert par la directive européenne 2002/96/EC.
2. Tous les produits électriques et électroniques doivent être éliminés séparément de la chaîne de collecte municipale des ordures, par l' intermédiaire des installations de collecte prescrites et désignées par le gouvernement ou les autorités locales.
3. Une élimination conforme aux instructions aidera à réduire les conséquences négatives et risques éventuels pour l'environnement et la santé humaine.
4. Pour plus d'informations concernant l'élimination de votre ancien appareil, veuillez contacter votre mairie, le service des ordures ménagères ou encore le magasin où vous avez acheté ce produit.

## English

### Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

## Deutsch/German

### Entsorgung von Altgeräten

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektro- und Elektronik-Altgeräte müssen getrennt vom Hausmüll über die dafür staatlich vorgesehenen Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Geräts vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Geräts erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das Produkt erworben haben.

## Italiano/Italian

### RAEE: SMALTIMENTO DELLE VOSTRE VECCHIE APPARECCHIATURE

1. Quando il simbolo del "Cassonetto Barrato" è apposto su un prodotto, significa che lo stesso può ricadere nei termini previsti dalla Direttiva Europea nr. 2002/96/EC in funzione dell'attuazione definita dalla Legislazione dei singoli stati membri dell'Unione Europea.
2. Tutti i prodotti elettrici ed elettronici dovrebbero essere smaltiti separatamente dai rifiuti municipali, tramite appositi contenitori, approvati dall'Amministrazione Comunale o dalle Autorità Locali.
3. Il corretto smaltimento delle vostre vecchie apparecchiature, contribuirà a prevenire possibili conseguenze di impatto negativo sull' ambiente e per la salute dell'uomo.
4. Per maggiori informazioni circa lo smaltimento delle vostre vecchie apparecchiature, siete pregati di contattare l'ufficio municipale della vostra città, il servizio di smaltimento rifiuti o il punto vendita nel quale avete acquistato il prodotto.

## Polski/Polish

### Utylizacja starych urządzeń

1. Kiedy do produktu dołączony jest niniejszy przekreślony symbol kołowego pojemnika na śmieci, oznacza to, że produkt jest objęty europejską dyrektywą 2002/96/EC.
2. Wszystkie elektryczne i elektroniczne produkty powinny być utylizowane niezależnie od odpadów miejskich, z wykorzystaniem przeznaczonych do tego miejsc składowania wskazanych przez rząd lub miejscowe władze.
3. Właściwy sposób utylizacji starego urządzenia pomoże zapobiec potencjalnie negatywnemu wpływowi na zdrowie i środowisko.
4. Aby uzyskać więcej informacji o sposobach utylizacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmującym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

## Português/Portuguese

### Eliminação do seu antigo aparelho

1. Quando este símbolo de latão cruzado estiver afixado a um produto, significa que o produto é abrangido pela Directiva Europeia 2002/96/EC.
2. Todos os produtos eléctricos e electrónicos devem ser eliminados separadamente da coleta de lixo municipal através de pontos de recolha designados, facilitados pelo governo ou autoridades locais.
3. A eliminação correcta do seu aparelho antigo ajuda a evitar potenciais consequências negativas para o ambiente e para a saúde humana.
4. Para obter informações mais detalhadas acerca da eliminação do seu aparelho antigo, contacte as autoridades locais, um serviço de eliminação de resíduos ou a loja onde comprou o produto.

## Español/Spanish

### Cómo deshacerse de aparatos eléctricos y electrónicos viejos

1. Si en un producto aparece el símbolo de un contenedor de basura tachado, significa que éste se acoge a la Directiva 2002/96/EC.
2. Todos los aparatos eléctricos o electrónicos se deben desechar de forma distinta del servicio municipal de recogida de basura, a través de puntos de recogida designados por el gobierno o las autoridades locales.
3. La correcta recogida y tratamiento de los dispositivos inservibles contribuye a evitar riesgos potenciales para el medio ambiente y la salud pública.
4. Para obtener más información sobre cómo deshacerse de sus aparatos eléctricos y electrónicos viejos, póngase en contacto con su ayuntamiento, el servicio de recogida de basuras o el establecimiento donde adquirió el producto.

## America

**CBC AMERICA Corp.**
**New York**
55 Mall Drive,
Commack, NY 11725, U.S.A

http://www.computarganz.com/

**CBC AMERICA Corp.**
**Los Angeles Division**
21241 South Western Avenue, Suite #160
Torrance, CA 90501, U.S.A

http://www.computarganz.com/

**CBC AMERICA Corp.**
**Mexico Branch Office**
Galileo NO.20-101, Col. Polanco,
Miguel Hidalgo, 11500, MEXICO

http://www.computarganz.com/

## Europe

**CBC EUROPE GmbH**
**Düsseldorf**
Hansaallee 191,
D-40549 Düsseldorf, GERMANY

http://www.cbc-europe.com/

**CBC EUROPE GmbH UK Branch**
**London**
Unit 9, Garrick Road Industrial Estate,
Irving Way, London NW9 6AQ, U.K.

http://www.cbceurope.com/

**CBC EUROPE S.r.l.**
**Milan**
Via E. Majorana, 2
20834-Nova, Milanese (MB), ITALY

http://www.cbceurope.it/cctv

**CBC(POLAND) Sp. z o.o.**
**Warszawa**
ul. Anny German 15,
01-794, Warszawa, POLAND

http://www.cbcpoland.pl/

**CBC Co., Ltd. MOSCOW REP Office**
**Moscow**
Office 503B, Entrance #3, (Building 1)
World Trade Center, 12, Krasnopresnenskaya nab,
Moscow, 123610, RUSSIA
http://www.cbc.ru/

## Asia

**CBC. S Pte Ltd.**
**Singapore**
15 Jalan Kilang Barat, No.04-03
Frontech Centre, SINGAPORE 159357

http://www.cbcsingapore.com/

**CBC (THAILAND) Co., Ltd.**
**Bangkok**
23rd Floor, ITF Tower 2, 140/53-55,
Silom Road, Suriyawongse,
Bangkok, Bangkok, 10500, THAILAND
http://www.cbcthailand.com/

**CBC CORPORATION (INDIA) Pvt. Ltd.**
**Mumbai**
2nd Floor, B Wing, Marwah Centre,
Krishanlal Marwah Marg,
Andheri East, Mumbai 400 072, INDIA

**PT. CBC PRIMA**
**Jakarta**
MidPlaza II Building 12th Floor,
Jl. Jend. Sudirman Kav.10-11,
Jakarta Pusat, 10220 Republic of INDONESIA

**T-CBC (TAIWAN) Co., Ltd.**
**Taiwan**
Room D, 10th Floor, No.365 Fushing N. Rd.,
Taipei, 10579, Taiwan, R.O.C

http://www.t-cbc.com.tw/

## China

**CBC (BEIJING) Trading Co., Ltd.**
**Beijing**
Room B905-A, Tian Yuan Gang Center,
No.C2 Dong San Huan Bei-Lu,
Chaoyang District, Beijing CHINA 100027
http://www.cbc-china.cn/

**CBC (SHANGHAI) Trading Co., Ltd.**
**Shanghai**
Room 1801, GIFC, No.1438 Hongqiao Road,
Changning District, Shanghai, CHINA 200336

http://www.cbc-china.cn/

**CBC (GUANGZHOU) Trading Co., Ltd.**
**Guangzhou**
Room 1207, Citic Plaza, No.233 Tian He
North Road, Guangzhou City,
Guangdong Province, CHINA 510613
http://www.cbc-china.cn/

**CBC (HONG KONG) Co., Ltd.**
**Hong Kong**
Unit 901, 9/F., Tower 5,
China Hong Kong City, 33 Canton Road,
Tsim Sha Tsui, Kowloon, Hong Kong, CHINA
http://www.cbc-china.cn/

CBC GROUP

**CBC Co., Ltd.**
**Head Office, Tokyo**
Image & Information Technology Division
2-15-13, Tsukishima, Chuo-ku,
Tokyo 104-0052, JAPAN

http://www.cbc.co.jp/en/index.html
http://www.ganz-global.com/

**Revision History**

| REV# | DATE(M/D/Y) | Comments |
|---|---|---|
| 06-2014-A | 06/17/2014 | Added revision# to each pages.<br>Minor update on Specification<br>Added schedule on Day & Night menu |
| 10-2014-A | 10/30/2014 | Additions and revisions for new FW(1558).<br>Minor update on some pages. |